DUMBARTON OAKS

The Organizational Setup and Functioning of the Fish Market in Tenth-Century Constantinople
Author(s): George C. Maniatis
Source: *Dumbarton Oaks Papers*, Vol. 54 (2000), pp. 13-42
Published by: Dumbarton Oaks, Trustees for Harvard University
Stable URL: http://www.jstor.org/stable/1291831
Accessed: 03/04/2013 07:25

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at http://www.jstor.org/page/info/about/policies/terms.jsp

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Dumbarton Oaks, Trustees for Harvard University is collaborating with JSTOR to digitize, preserve and extend access to *Dumbarton Oaks Papers.*

http://www.jstor.org

The Organizational Setup and Functioning of the Fish Market in Tenth-Century Constantinople

GEORGE C. MANIATIS

Fish, being an important source of animal protein, played a very important role in the diet of Constantinople's large population in the tenth century. Yet, our understanding of the way the fish industry actually worked within the prevailing economic and institutional milieu is incomplete. Research heretofore has focused on the guild of the fish merchants (ἰχθυοπράται) as part of the state regulatory mechanism rather than on the functioning of the fish market per se. The distinction between wholesale and retail fresh fish markets has been overlooked and its implications remain unascertained. The connection between the fish markets and the processing segment of the industry has been missed, and the latter's effect on fresh fish pricing has not been explored. The impact of the organizational setup and key institutional parameters on the conduct of the individual players, the operation of the downstream markets, and the nature of the competitive process remains elusive. In addressing these important issues, in-depth analysis of key *operational* aspects of the industry is crucial as it provides the requisite supporting structure.[1] It offers a perspective for probing the rationale for the guild system as applied to the fish industry, for ascertaining the behavioral patterns of guild members and enforcing state officials within the existing legislative framework, and for detecting the character of interactions between fisherman and wholesaler, wholesaler and retailer, and fisherman or fish merchant and processor. It also establishes the dynamics of inter-seller and inter-buyer relations, gauges the extent of state intervention, and puts in perspective the role of the market mechanism.

[1]The *Book of the Eparch* (Ἐπαρχικὸν Βιβλίον) lays out the basic provisions that governed the guild of the fish merchants (17.1–4). The Greek text was published with emendations by J. Nicole, *Le Livre du Préfet ou l'Édit de l'Empereur Léon le Sage sur les Corporations de Constantinople* (Geneva, 1893), and was reprinted in J. Zepos and P. Zepos, *Jus Graecoromanum* (Athens, 1931), 2:371–92. English translations are by A. E. R. Boak, "The Book of the Prefect," *Journal of Economic and Business History* 1 (1929): 597–619; and E. H. Freshfield *Roman Law in the Later Roman Empire—Byzantine Guilds Professional and Commercial* (Cambridge, 1938). A recent critical edition of the Greek text as well as a German translation is by J. Koder, *Das Eparchenbuch Leons des Weisen* (Vienna, 1991). Literary sources provide virtually no evidence on the organization and operation of the fish market in the capital or on the nature of the interaction of the players involved. On the other hand, legal texts and the regulatory regime, judiciously interpreted and supplemented with sound economic analysis, supply the requisite building blocks for the construction of a workable analytical framework helpful in ascertaining the likely character of the fish market and the behavior of the agents.

The Legal Regime of the Fishing Grounds

The long-standing legal framework applicable to fishing activities established the unimpeded right to fish anywhere in the maritime space: Ὁ κωλύων με ἐν θαλάσσῃ ἁλιεῦσαι ὑπόκειται τῇ περὶ ὕβρεως ἀγωγῇ (Those barring me from fishing in the sea are subject to the *actio injuriarum*) (*Basilics* 53.6.5); Εἰ καὶ συνηθές ἐστι παρανόμως τινάς κωλύειν ἑτέροις ἁλιεύειν πρὸ τῶν ἰδίων οἴκων, ὅμως ὁ κωλύσας ἐνέχεται τῇ περὶ ὕβρεως ἀγωγῇ (Though illegal, it is common for people to block others from fishing in front of their homesteads; nevertheless, those so doing are subject to the *actio injuriarum*) (*Basilics* 60.21.13; *Synopsis Basilicorum*, A.XXXVI.1). This situation was viewed as unconducive to efficient fixed-net fishing,[2] apparently because (a) it resulted in missed opportunities to exploit available grounds suitable for this type of fishing; and (b) it threatened depletion of existing fishing grounds through overfishing or the harvesting of undersized fish, since the absence of enforceable property rights tends to foster shortsighted resource management.[3] Moreover, this policy infringed upon the legitimate right of owners to exploit waterfront property.

Since fixed-net fishing was a major source of the capital's high-value fish supply,[4] steps were taken to promote the utilization of all suitable shorelines and their sustainable development, to encourage proper management, and to ensure the availability of requisite investments in fixed and working capital. These goals were met through legislative action: (a) to combine littoral properties whose frontages were short of the prescribed length for the installation of fixed-net fisheries; and (b) to prevent third parties from preempting the equal right of waterfront property owners to set up and operate a fixed-net fishery in front of their land (πρόθυρα θαλάττια). In essence, the enacted legislation aimed to set operational priorities, modify prevailing business practices, and end the haphazard *status quo ante* of open access, which had hindered the full exploitation of the natural resource and resulted in significant loss of economic, social, and fiscal benefits. Potentially, these measures, aside from rectifying a perceived inequity *vis-à-vis* tax-paying waterfront property owners and reducing the tension between property owners and free riders, would have streamlined fishing operations, encouraged more responsible behavior, increased the daily catch (and hence supply), lowered the price of species otherwise in limited supply, and increased employment opportunities—all while adding to the revenue collected from the tax levied on the market value of the catch at the waterfront (ἁλιεία, ἁλιευτική). Furthermore, the extension of property rights to the sea floor would have raised littoral property values, broadened the tax base, and increased property tax revenues.

Emperor Leo VI (886–912) sought to effect these remedies through several novels.[5] Novel 56 extended the rights of waterfront property owners to the sea floor, in effect restricting the legal notion of *res communis* and the attendant right of open access and

[2]These are fisheries established in shallow sea waters, lagoons, or river estuaries employing a technique whereby nets were anchored on poles driven into the sea floor (ἐποχαί).

[3]On the impact of such practices on the stock of fish, see H. S. Gordon, "The Economic Theory of a Common-Property Resource: The Fishery," *Journal of Political Economy* 62.2 (1954): 129, 135, 139.

[4]Most of the world's highest valued fisheries are located in coastal waters. E. A. Loayza and L. M. Sprague, *A Strategy for Fisheries Development*, World Bank Discussion Paper no. 135 (Washington, D.C., 1992), xii.

[5]For the text of Novels 56, 57, 102, 103, and 104, see *Jus Graecoromanum*, 1:126–27, 170–73; H. Monnier, *Les Novelles de Léon le Sage* (Paris, 1923), 120–22, 145–46; C. A. Spulber, *Les Novelles de Léon le Sage* (Cernauti, 1934), 234–37, 302–6; P. Noailles and A. Dain, *Les Novelles de Léon VI le Sage* (Paris, 1944), 212–17, 334–43.

establishing a legally protected private property right where none existed before. Unlike other fishing methods, the lasting character of fixed-net installations gave the pre-empting occupant an enduring user right that precluded access to all others, notably the long-standing owners of shoreline properties. This pre-emptive right came to be viewed as unfair, because it vitiated the equal rights of use of these fishing grounds by waterfront property owners and, based on past experience, was judged to be unsuitable for the promotion of this type of fishing.

The practical significance of Novel 56 was that, henceforth, the owner had the inalienable and enforceable right to prevent third parties from occupying the extension of his shoreline property into the sea. He alone was entitled to install and operate (or lease) a fixed-net fishery and could transfer (e.g., sell) his right at will. Previously, he had not had these rights and, in fact, was subject to an *actio injuriarum* if he attempted to stop prospective operators from setting up such a fishery. Potentially, Leo's measure would have reduced disputes and led to better husbandry of the fixed-net fisheries by curbing excessive harvesting (which, by reducing the fish population, increases the costs to other fishermen),[6] and by holding in check the use of detrimental fishing techniques (e.g., use of a too-small mesh size), that affect the size and weight, as well as the reproductive rates of the fish stock, with similar adverse effects.[7] Such practices are difficult to resist under an open access system, which provides virtually no incentive to prudent resource management.

With Novel 57, Leo codified as law a long-standing custom that established the minimum distance between fisheries (182.5 ὀργυιαί = about 350 m), thereby ensuring that fisheries did not encroach on one another. Novel 104 directed how disputes likely to arise from the violation of the prescribed distances would be resolved. Finally, Novel 102 provided a remedy for an owner whose waterfront property (θαλάττιος νομή) was short of the prescribed length for the establishment of a fixed-net fishery by mandating participation of owners of contiguous properties: if they did not agree voluntarily to form a joint operation—lacking a conventional *communio* (κοινωνία), a mandatory partnership (*communio rerum*) was to be formed. The rationale for this ruling was that, even though the obligatory *communio rerum* (ἡ τῶν πραγμάτων κοινώνησις) might infringe individual rights, such a coercive union put adjoining properties into productive use, something that was advantageous to all participants and the common good. The profits from the forced joint undertaking were to be divided equally rather than in proportion to the extent of the shoreline property owned (Novel 103), on grounds that each partner's share of the catch could not be determined with precision and, more important, that the major part would be useless without the lesser. The complement rendered operational something that was previously valueless.

[6]These costs, referred to as "externalities," are generated within the fishery and are imposed by fishermen on other fishermen. The offenders do not consider them as such in making their decisions, because these costs are not borne by them—they are the consequence of their actions but external to them, and they may be unaware that their decisions are imposing costs on others, or they may be aware but have no incentive to refrain from such actions. *Real* externalities affect harvest levels of other fishermen, whereas *pecuniary* externalities affect their income levels. For details, see R. S. Johnston, *Fisheries Development, Fisheries Management, and Externalities,* World Bank Discussion Paper no. 165 (Washington, D.C., 1992), 1–5.

[7]R. Turvey, "Optimization and Suboptimization in Fishery Regulation," *American Economic Review* 54 (1964): 64–76; Johnston, *Fisheries,* 4.

Gilbert Dagron is critical of this rationale, the absence of legal reasoning, and the internal inconsistency within the novels, because he felt they led to unnecessary privatization of the public domain, weakening of authority, proliferation of privileges, multiplication of law suits, compromise of individual rights, and institution of preferential property rights.[8] Because of these alleged shortcomings, Dagron concludes that these measures "met with partial success," and that Novels 56 (περὶ προθύρων θαλάσσης) and 103 (division of profit in *communio rerum*) fell into desuetude, as is evidenced by the fact that they were not retained in Attaleiates' compilation (1072–73).[9] He suggests further that only Novels 57, 102, and 104 were implemented.[10] Yet, inclusion of the crucial Novel 56 in the *Synopsis Minor* (mid-12th or early 13th century),[11] the *Prochiron Auctum* (end of the 13th century),[12] and the *Hexabiblos* (14th century)[13] suggests that it was likely being implemented well beyond the tenth century and apparently satisfactorily so, since it was not abrogated. Moreover, implementation of Novel 102 (*communio rerum*) presupposed that Novel 56 was in full force.

Though the method and solution adopted by the state to advance its objectives may be criticized on narrow legal, political, or sociological grounds, the thrust of the novels had tangible economic merit. The measures induced smaller property holders, apparently numerous along the waterfront of the Sea of Marmara and the Black Sea, "who preferred to go against their own interests rather than cooperate with their neighbor" (Novel 102), to work together productively. A balance had to be struck between the advantage of securing property rights and sensible limits to the absolute freedom in their exercise within the framework of an organized society.[14] To be sure, high stakes might

[8]This critical review of the legislation enacted by the novels from a legal standpoint is presented in G. Dagron, "Lawful Society and Legitimate Power: Ἔννομος πολιτεία, ἔννομος ἀρχή," in *Law and Society in Byzantium: Ninth–Twelfth Centuries,* ed. A. E. Laiou and D. Simon (Washington, D.C., 1994), 43–51; idem, "Poissons, pêcheurs et poissonniers de Constantinople," in *Constantinople and Its Hinterland,* ed. C. Mango and G. Dagron (Aldershot, 1995), 61–67.

[9]Πόνημα, *Jus Graecoromanum,* 7:491.

[10]Dagron, "Lawful Society," 47–48 and n. 90; see also ibid., n. 49.

[11]Νεαρὰ λ' (νς')τοῦ κυροῦ λεόντός φησιν, ὥστε δεσπόζειν ἕκαστον τοῦ παρακειμένου αὐτῷ θαλαττίου προθύρου καὶ κύριον εἶναι τούς, εἴ τινες βουληθεῖεν χωρὶς τῆς αὐτοῦ ἐπιτροπῆς τῆς τῶν προθύρων ὠφελείας ἀπολαύειν, ἐκδιώκειν (Leo's Novel 56 stipulates that ownership over the extension of a property line into the nearby sea floor implies that the owner can evict those who attempt to profit from the use of these grounds without his permission). *Synopsis Minor,* A.32.

[12]Θεσπίζομεν τοιγαροῦν, τῶν ἰδίων προθύρων ἕκαστον δεσπόζειν καὶ κύριον εἶναι τούτων, ὥστε τοὺς μὴ πρόθυρα ἔχοντας δηλαδὴ μὴ δεσπότας γίνεσθαί ποτε (1). (1)=Nov. Leonis 56 (We therefore decree that waterfront property owners shall have ownership and sovereign authority over the extension of their property into the sea floor [πρόθυρα], and those who have no such property can never acquire property rights and exercise dominion). *Prochiron Auctum,* XXXVIII.78.

[13]Περὶ προθύρων θαλαττίων ἡ τριακοστὴ νεαρὰ[3] τοῦ καίσαρος Λέοντος φησιν ὥστε δεσπόζειν ἕκαστον τοῦ παρακειμένου αὐτῷ· καὶ κύριον εἶναι τοῦ, εἴ τινες βουληθεῖεν χωρὶς τῆς αὐτοῦ ἐπιτροπῆς τῆς τῶν προθύρων ἀπολαύειν ὠφελείας, ἐκδιώκειν. Note 3 reads: "Νεαρά 56 (Emperor Leo's Novel 56 stipulates that owners of waterfront properties have rights on their extension into the sea floor [προθύρων θαλαττίων], and as owners they have the right to turn away anyone who attempts to profit from the occupancy of such property without their permission)": *Hexabiblos,* 2.1.54. On the dates of *Synopsis Minor, Prochiron Auctum,* and *Hexabiblos,* see P. Collinet, "Byzantine Legislation from the Death of Justinian (565) to 1453," *Cambridge Medieval History* (Cambridge, 1923), 4:722–23.

[14]From his perspective, the emperor acted as the impartial, rational, and ideal legislator—a forerunner of classical utilitarians: "that action is best, which procures the greatest happiness for the greatest numbers"; F. Hutcheson, *An Inquiry Concerning Moral Good and Evil* (1725), quoted in J. Rawls, *A Theory of Justice* (Cam-

give rise to disagreements and litigation, but the courts could mediate disputes to resolve contested rights and normalize relations. Indeed, the very existence of property rights may be explained in terms of the necessity for the orderly exploitation and conservation of a resource.[15]

The impetus for legislative action evidently was a change in economic conditions, since the definition of new private property rights[16] is largely an economic rather than legal calculus. As the value of a common property resource increases because of prospective higher net return, individuals are more prone to try to secure private property rights over it. People tend to exercise rights when they believe that gains from exploiting an underutilized resource will exceed the costs, and they neglect to do so when the likely gains from pursuing such an economic activity are deemed insufficient. In a sense, properties in the public domain are those that people have refrained from laying claim to. Whenever conditions or perceptions change, new gainful opportunities are likely to emerge and activities previously not worth undertaking are perceived as valuable enough to repay the effort spent.[17] The process is reinforced and facilitated if, concurrently, state and private interests can be advanced as well: the convergence of public and private interests propels legislative initiatives to sanction transfer of rights from public to private ownership. The littoral property owners' self-interest in opening fixed-net fishing grounds and securing exclusive exploitation rights to them conjoined with the state's

---

bridge, 1971), 22 n. 9. In the utilitarians' view, society's institutions should be arranged so as to achieve the greatest collective satisfaction. It is immaterial how this sum of satisfactions is distributed among individuals. The violation of the right of a few is vacated by the greater good achieved and shared by many—by social expediency. On the utilitarian doctrine, see Rawls, *Theory,* 22–26, 30–31; R. Nozick, *Anarchy, State, and Utopia* (New York, 1974), 28–30; B. Russell, *A History of Western Philosophy* (New York, 1945), 183, 627–29, 773–82; J. A. Schumpeter, *History of Economic Analysis* (New York, 1954), 130–34; R. A. Posner, *The Economics of Justice* (Cambridge, 1983), 48–87. Depending on their position along the ideological spectrum, critics have faulted utilitarianism as having failed to take seriously the distinction between persons and as having mistaken impersonality for impartiality (Rawls, *Theory,* 183–92); as violating the neutrality of the state between its citizens (Nozick, *Anarchy,* 30–33); as being unable to explain concrete government actions (Schumpeter, *History,* 428–29); or as lacking a method for calculating the effect of a decision or policy (Posner, *Economics of Justice,* 54–55). For a confutation of the criticisms leveled against classical utilitarianism as they apply to economic analysis and a theory of "constrained utilitarianism," see Posner, *Economics of Justice,* 60–115. Utilitarian hypotheses are basic to the prescriptive part of economic theory referred to as welfare economics, often described as "applied utilitarianism." A convincing argument can be made that there are circumstances under which state action may prove beneficial to those governed, in the sense that it helps them achieve their own ends while safeguarding other persons' rights. When the welfare of the members of the economy is in part dependent on each others' activity and persons pursuing their own immediate interests act in a manner contrary to the interests of the others, if voluntary arrangements to rectify adverse consequences cannot be relied upon, then it becomes advantageous to all members of the society to have the activities of every individual restricted by coercive measures. In such instances, state intervention and the extension of government power, although it involves restriction of choice and decision, will not necessarily affect the citizenry disadvantageously. Cf. W. J. Baumol, *Welfare Economics and the Theory of the State* (Cambridge, 1952), 140–42.

[15]Gordon, "Fishery," 134.

[16]Property rights are understood as rights individuals appropriate over their own labor and the goods they possess, and are predicated on legal rules and their enforcement, organizational forms, and behavioral norms—in short, on the institutional framework. D. C. North, *Institutions, Institutional Change and Economic Performance* (New York, 1990), 33. For the concept, emergence, and role of property rights, see H. Demsetz, "Toward a Theory of Property Rights," *American Economic Review* 57.2 (1967): 347–59.

[17]Y. Barzel, *Economic Analysis of Property Rights* (New York, 1989), 65, 74–75; North, *Institutions,* 51.

larger interest to extend land ownership into the sea and remedy the perceived suboptimal utilization of this vital natural resource.[18]

Organization of the Fish Industry

Fishermen as Suppliers

Fishermen resided in the capital and the nearby littoral communities dotting the shores of the Bosporos, the Sea of Marmara, and the Black Sea. They brought their catches to the city, which was by far the largest consumption center. Fishermen were not allowed to sell their catches at the fishing grounds or directly to consumers (*Book of the Eparch,* 17.3), which suggests that their operations were distinct from those of the fish merchants.[19] If they managed to own a boat and the requisite gear, fishermen worked as independents: either solo, or by forming partnerships. Otherwise they worked as hired hands for larger fishermen who might own one or more fishing boats or for operators of fixed-net fishing establishments. Because of the importance of the fish industry, and despite its labor intensive nature, a substantial amount of capital must have been invested in fishing vessels and tackle. This suggests that the size distribution of fishing operations was rather wide. Fishermen very likely had difficulty in banding together voluntarily because of their very large number and wide dispersion. This, coupled with unimpeded entry and exit, probably contributed to a competitive organizational structure. Unlike the fish merchants, fishermen were not organized into an obligatory guild, probably because the nature of their activities and their spatial distribution, which extended beyond city limits, made it impractical.

The Fish Merchants' Guild

The fish trade was organized by law (*Book of the Eparch*) into a guild, with its own chiefs appointed by the eparch, one for each of the designated retail fish markets in the

[18] Under a regime of free and open access, a change in the perceived value of a common-property resource has important ramifications for fishery management and development: greater risk for stock depletion due to intensified fishing effort (i.e., increased inflow of capital and labor into the fishery), overfishing, or capture methods (e.g., smaller mesh size); greater likelihood of over-investment and hence waste of resources; or higher incidence of conflicts between different groups of fishermen and between existing fishermen and new entrants, e.g., as a result of competition for the same stock of fish in a given location (World Bank, *A Study of International Fisheries Research* [Washington, D.C., 1992], 14–15). To prevent this from occurring, the property regime would inevitably have to move away from free property access, and a more rational system of property ownership and resource use would have to be devised. Effective fishing management cannot be achieved without assigning some form of property rights to fishing grounds (World Bank, *Study,* 27; D. W. Bromley and M. M. Cernea, *The Management of Common Property Natural Resources* [Washington, D.C., 1989], 22). However, adoption of access controls leads to administrative allocation of exclusive use rights that benefit one set of users at the expense of another—a wealth redistribution decision that can only be made at the political level (World Bank, *Study,* 27). But any action with redistributive effects (e.g., taxation) unavoidably encroaches on an individual's rights. Nevertheless, this is a small price to pay, a trade-off, for the achievement of larger state and public ends, all the more so, since continuation of a free access policy without privatization of property rights over fishing grounds is hardly a workable alternative.

[19] Cf. A. Stöckle, *Spätrömische und byzantinische Zünfte* (Leipzig, 1911), 45.

capital (ἐχούσης μιᾶς ἑκάστης καμάρας καὶ τὸν προστατεύοντα 17.1).[20] In those economic activities governed by a guild structure, guild membership was a condition *sine qua non* for the practice of the trade,[21] albeit only for the proprietor of the business establishment. Indeed, workers were denied membership, as the guild was strictly an association of business owners and operators.[22] The law does not set a *numerus clausus* for the fish merchants' guild. Nor does it stipulate conditions of entry, which is not unusual (compare, e.g., sections 5, 7, 9, 10, 11, 13, 14, 15, 18, 19, 21). Apparently, entry conditions were similar to those applicable to guilds for which the law was explicit (e.g., 2.10, 3.1, 4.5, 6.6, 7.3, 8.13, 12.2, 16.1): the prospective candidate had to produce several respected and honest persons,[23] who vouched for him before the eparch that he was worthy to exercise the trade (ἐπ' ἀγαθῇ ὑπολήψει), that he would not contravene regulations in force (μηδὲν παρὰ τὰ διατεταγμένα πράττεσθαι), and that he was a person of means (εὔπορος). As in most other guilds, slaves were admitted into the fish merchants' guild since they were not explicitly excluded, provided they were sponsored by their masters.

[20]The fish were retailed in vaulted chambers (ἐν καμάραις), which kept them cool and fresher longer. Stöckle, *Byzantinische Zünfte,* 45.

[21]This view is also held by A. P. Christophilopoulos, Τὸ Ἐπαρχικὸν Βιβλίον Λέοντος τοῦ Σοφοῦ καὶ αἱ Συντεχνίαι ἐν Βυζαντίῳ (Athens, 1935), 4, 36, 50; G. Mickwitz, "Die Organisationsformen zweier byzantinischer Gewerbe im X. Jahrhundert," *BZ* 36 (1936): 71 and n. 3; A. D. Sideris, Ἱστορία τοῦ Οἰκονομικοῦ Βίου (Athens, 1950), 264; B. Mendl, "Les Corporations Byzantines," *BSl* 22 (1961): 302, 304, 312–18.

[22]Many authors maintain that guild membership was not compulsory and, hence, industrial and trade activities could be conducted outside the guild system: Nicole, *Livre du Préfet,* 80; Stöckle, *Byzantinische Zünfte,* 8 ff and n. 5; Boak, "Book of the Prefect," 608; G. Zoras, *Le Corporazioni Bizantine: Studio sull' Ἐπαρχικὸν Βιβλίον dell'Imperatore Leone VI* (Rome, 1931), 172; R. S. Lopez, "Silk Industry in the Byzantine Empire," *Speculum* 20 (1945): 16 and n. 3; S. Runciman, "Byzantine Trade and Industry," in *Cambridge Economic History of Europe* (Cambridge, 1987), 2:154 n. 12, 156; G. Ostrogorsky, *History of the Byzantine State* (Oxford, 1968), 254; D. Simon, "Die byzantinischen Seidenzünfte," *BZ* 68 (1975): 36–39; A. Muthesius, "The Byzantine Silk Industry: Lopez and Beyond," *Journal of Medieval History* 19 (1993): 32. Yet, it would be simplistic to entertain the notion that while a state-mandated guild system was in force, the parallel conduct of commercial activities by the same crafts would be allowed to go on outside the purview and control of the authorities. It would serve no purpose to put in place an organizational structure, detail operational functions, and enact elaborate regulations concerning admission, obligations, and conduct, only to let businesses operate outside the system. Such practice would have caused the guild system to founder. In fact, the practice of the chandler and soapmaker crafts by non-guild members was explicitly prohibited (11.1; 12.6).

[23]L. M. Hartmann, "Zur Geschichte der Zünfte im frühen Mittelalter," *Zeitschrift für Sozial und Wirtschaftsgeschichte* 3 (1894): 24; Stöckle, *Byzantinische Zünfte,* 58; Zoras, *Corporazioni Bizantine,* 82; and Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 50 and n. 5, 51, hypothesize that five persons had to vouch for new entrants even when the law is silent, as stipulated in provisions 2.10, 4.5, 8.13. However, in the case of the raw silk dealers, 6.6 stipulates "παρά τινων ἐντίμων καὶ χρησίμων ἀνδρῶν," i.e., by certain (τινων) men, suggesting that the number of vouchers could vary. Similarly, it has been argued (Stöckle, *Byzantinische Zünfte,* 56; Zoras, *Corporazioni Bizantine,* 82; Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 50) that the vouchers had to be members of the same guild. This requirement appears only in the case of the merchants of domestically produced silks (4.5), and there is no reason to believe that the law intended it to apply to other guilds as well; if it did, it would have so stated, given the importance of the vouchers' testimony in making admission decisions. Though guild members probably were not excluded, relying exclusively on member-vouchers would have resulted in the creation of "closed shops" through attrition and forestallment of entry under false pretext. In turn, this would have led to concentration of economic power and privileged entry by relatives of existing members, a situation that would hardly have been tolerated by authorities imbued with an anti-monopoly mind-set and competitive spirit, as reflected in *Basilics,* 19.18.1 and the *Book of the Eparch,* which not only set the official industrial and commercial policy but was also an extension of the legislation that sought to restrain monopoly and promote competition (e.g., 18.5, 20.3).

On the other hand, aliens were not allowed to join, not because they were viewed with suspicion by the authorities, as has been suggested,[24] but rather to preserve the field for the locals.

As in many other instances, the law does not indicate whether a fee had to be paid by new members entering the guild of the fish merchants. In the law's silence, scholarly opinion on this issue is divided. Some think that, unless stipulated, there was no such obligation;[25] however, their arguments do not seem convincing. The assertion that member fees were specified only for the more affluent or prestigious guilds, for example, those involved in silk manufacturing and trade or soap-making, and that guilds involved in the alimentary trades were exempted to avoid burdening their members is hardly plausible, since the law is also silent in the case of the guilds of goldsmiths (2.10) and bankers (3.1), presumably among the more affluent and respected professions. Moreover, the one-time fee was nominal and affordable by anyone intent on setting up shop. More likely, the law's silence indicates that a customary standard fee of two nomismata generally applied (6.6, 7.3). In the few cases where the fee was explicitly set, it introduced higher charges, usually for manufacturing establishments, of three (8.13), six (4.5), and twelve (12.2) nomismata.

Like the members of all other guilds, fish merchants were not allowed to practice any other trade concurrently; they had to choose one and give up the other, informing the eparch of their choice (18.5). Several hypotheses have been advanced concerning the rationale for this ruling. In the context of the fish merchants' guild, the aim was to foster labor specialization and to facilitate state supervision of trade activities,[26] to keep the guilds from banding together and becoming a threat to the state,[27] and to ensure public order and political stability.[28] Fundamentally, the purpose was to prevent the concentration of economic power in a few hands. By prohibiting firms from expanding into activities conducted by other guilds, whether individually or through partnerships, and thereby effecting a union of trades and horizontal or vertical integration, potential threats to the regime were forestalled. Insistence on strict division of labor among guilds prevented enterprise growth unrelated to market demand, control of the market through formation of a few large enterprises, and weakening or elimination of competition based on sheer market power—in short, monopolization or lessening of competition.

The Processing Segment of the Industry

The organizational structure of the fishing industry included a post-harvest sector for the processing of unsold fish and marketing of preserved fish. Some of the processing was probably done by fishermen and fish merchants, mainly when the quantities involved

[24] Stöckle, *Byzantinische Zünfte,* 59, 119; Zoras, *Corporazioni Bizantine,* 79–80; Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 52.

[25] Stöckle, *Byzantinische Zünfte,* 60–61; Zoras, *Corporazioni Bizantine,* 86–87; Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 52 and n. 5. Contra, Hartmann, "Geschichte," 24.

[26] Stöckle, *Byzantinische Zünfte,* 98; Zoras, *Corporazioni Bizantine,* 78; C. M. Macri, *L'organisation de l'économie urbaine dans Byzance sous la dynastie macédoine* (Paris, 1925), 46, 58.

[27] J. P. Waltzing, *Étude historique sur les corporations professionnelles chez les romains* (Louvain, 1895), 1:50, 354 and n. 3; Stöckle, *Byzantinische Zünfte,* 98; Zoras, *Corporazioni Bizantine,* 78; Macri, *Économie urbaine,* 41.

[28] Zoras, *Corporazioni Bizantine,* 78; Macri, *Économie urbaine,* 41.

were small and the activity was carried out in their households. At peak harvests, however, when the retail market could not absorb the entire daily catch, large quantities of fish must have been diverted to salting, pickling (in brine or vinegar), or drying. This activity required basic technical, procurement and marketing skills, processing capacity in the form of sheds, equipment and tools, storage space, and working capital for operating expenses. An allusion to the craft of curers (ταριχευταί, ταριχοπράτισσαι, ταριχοπῶλαι)[29] and the export of preserved fish to Italy during Roman times[30] strongly suggest the existence of an organized processing activity completely independent of fishing and fish trading. Conceivably, these independent craftsmen might also have been involved in meat preservation, allowing them to utilize the excess capacity that resulted from the seasonality of fish processing. Preserved fish (and meat) were staples, consumed mainly by the masses,[31] and the quantities marketed must have been substantial. Ship crews departing from the capital also bought and stored quantities of preserved fish for their voyages.[32] But in keeping with the principle of "one man—one trade" (18.5), processors could sell only to grocers (σαλδαμάριοι), who had exclusive retail distribution rights and were conveniently located in the city (13.1). As was the case in other manufacturing and trade activities, the fact that the processors were not organized into a guild may be attributed to their relatively small number, which did not justify the formation of an independent guild.

Market Organization

The Wholesale Market

The law directed wholesale fish merchants to make their purchases from fishing boats that put in at designated wharfs and nearby beaches; they were not permitted to buy fish from fishermen at the fishing grounds (οἱ ἰχθυοπράται τὴν ἐξώνησιν ποιείτωσαν ἐν ταῖς αἰγιαλοῖς καὶ ἐν ταῖς σκάλαις ἀπὸ τῶν καταιρόντων πλοίων, μὴ ἀνερχόμενοι αὐτοὶ ἐν ταῖς ἐποχαῖς καὶ ἐν ταῖς λοιπαῖς ἄγραις, 17.3). The reason for the ruling was to prevent the sale of fish in small quantities, that is, retail (ὡς ἂν μὴ κατακερματίζοιτο ἡ διάπρασις). This suggests that not only were retail fish merchants enjoined from purchasing directly from fishermen, but that fishermen themselves were not permitted to retail their catch. In the same vein, provision 53.6.7 of the *Basilics* directed that fishermen could not be forced to carry their wares to towns and sell them there themselves, but had the legal right to dispose of them through third parties (οἱ ἁλιεῖς οὐκ ἀναγκάζονται τὰ εἴδη φέρειν εἰς τὰς πόλεις καὶ δι' ἑαυτῶν πιπράσκειν, ἀλλ' ἄδειαν ἔχουσιν ἑτέροις αὐτὰ μεταδιδόναι). The provision prohibits, in effect, local authorities from compelling fishermen to alter their long-

[29] Stöckle, *Byzantinische Zünfte,* 46; J. M. Maspero, *Papyrus grecs d'époque byzantine* (Milan, 1973), 1:53, no. 67023, v. 8; Dagron, "Poissons," 69.

[30] J. André, *L'Alimentation et la cuisine à Rome* (Paris, 1961), 113, and the sources cited therein.

[31] Stöckle, *Byzantinische Zünfte,* 46; J. W. Nesbitt, "Mechanisms of Agricultural Production on Estates of the Byzantine Praktika" (Ph.D. diss., University of Wisconsin, 1972), 48–49, 57; Dagron, "Poissons," 69.

[32] Nesbitt, "Mechanisms," 49–50. Given the high level of commercial traffic in the capital, the demand for preserved fish by departing ships and individuals must have been considerable. Freshfield, *Byzantine Guilds,* 41; Macri, *Économie urbaine,* 42–43; and Runciman, "Byzantine Trade and Industry," 158, misinterpreting provision 17.2, maintain that preserved fish might not be sold to persons leaving the city. Provision 17.2 did not prohibit the export of preserved fish as long as it was processed from unsold surpluses.

standing practice of selling their catch to intermediaries.[33] Clearly, both provisions allude to the existence of a two-tier fish trade and of two distinct markets: a wholesale market at the waterfront[34] and a retail one in the urban center of the capital, where the retail fish merchants had stalls in the designated fish markets (οἱ ἰχθυοπράται ἔστωσαν ἐν ταῖς λεγομέναις μεγίσταις καμάραις τῆς πόλεως ἀπεμπολοῦντες τοὺς ἀγρευομένους ἰχθύας, 17.1).[35]

The existence of a separate wholesale market and independently functioning wholesalers is further supported by the fact that this activity required substantial financial resources in the form of working capital for the spot purchase of the fish and, possibly, for the extension of credit to retailers, a form of non-price competition to promote sales and increase market share. This also suggests that a rather limited number of fish merchants had the requisite financial resources to engage in wholesale fish trade, as well as the potential to exercise monopsonistic/monopolistic pricing power. On the other hand, although there were no explicit restrictions, it is unlikely that wholesalers were involved in the retail trade. The fact that a distinct profit margin is stipulated for this particular activity seems to support this view. Indeed, there would be no reason to differentiate between wholesale (17.3) and retail (17.1) profit margins if these activities were undertaken by the same persons—the two margins would have been lumped together. In any case, this natural division of labor, such as was found between sheep merchants and butchers (15.2–5), was also consonant with official policy. Moreover, the low profit margin set for waterfront transactions (0.7%) is suggestive of a large turnover, which could only be handled by entrenched wholesalers. The statutory differentiation of profit margins between operations conducted at the waterfront and those carried on in the fish markets (8.33%) is further indication that retailers did not purchase directly from fishermen but only through wholesalers. If individual purchases were made directly from fishermen by the totality of the guild membership, an internal mechanism for organizing collective purchases and subsequent distribution of the purchased lot among the members would have been required. Yet, the law does not enjoin the fish merchants, as it does in other instances (5.3, 6.8, 9.3), to pool their funds to make collective purchases directly from

[33] Middlemen, usually well-known to fishermen, provided an outlet for their catch and eliminated their marketing risks, thereby satisfying their quest for security.

[34] Zoras, *Corporazioni Bizantine,* 179, and Dagron, "Poissons," 70–71, also interpret provision 17.3 as implying that the purchases from the fishermen were made wholesale. However, they do not distinguish an independently functioning wholesale market per se, and they do not recognize the existence of wholesalers, *qua* wholesalers, who did all the purchasing as virtual intermediaries and, in turn, sold to retailers adding a stipulated profit margin.

[35] R. Janin, *Constantinople byzantine: Développement urbain et répertoire topographique* (Paris, 1964), 98, stretching the evidence (ibid., n. 6), maintains that the fish was sold by shopkeepers located in the various quarters of the capital or by peddlers ("marchands ambulants") roaming the city. N. Oikonomides, in *Hommes d'affaires grec et latins à Constantinople (XIIIe–XVe siècles)* (Montreal, 1979), 99 n. 178, and "Entrepreneurs," in *The Byzantines,* ed. G. Cavallo (Chicago, 1997), 153, and Dagron, "Poissons," 69, also subscribe to the presence of "poissonniers ambulants" in the city. K. P. Matschke, "Situation, Organisation und Aktion der Fischer von Konstantinopel und Umgebung in der Byzantinischen Spaetzeit," *BBulg* 6 (1980): 286, drawing on 14th-century sources (ibid., nn. 36, 37) goes even further, asserting that fishermen sold their catch either to fish merchants or they marketed it themselves directly to consumers. In light of the unambiguous formulation of provision 17.1, the mandatory guild organization of the fish trade, and the strict division of labor among crafts, the hypotheses advanced are hardly convincing—at least with the knowledge of the conditions prevalent in the 10th century.

the fishermen. Finally, wholesale operations involving a rather small number of dealers facilitated the chiefs' task of ascertaining purchase prices of wholesalers (17.3) and retailers (17.1). Indeed, this task would have been almost impossible had the chiefs been required to contact dozens of retailers roaming the waterfront and deal directly and individually with as many fishermen, each striking a deal at a different price for each species of fish.[36]

Designation of a rather narrowly bounded area along the water's edge for the operation of the wholesale market[37] facilitated the discharge of supervisory and other tasks by state officials (17.1, 4), including collection of the tax levied on the fishermen once they had sold their catch.[38] A more subtle purpose was to confine sellers and buyers in a particular locality to form a unified wholesale market and prevent market fragmentation—proximity being the operative medium. This ensured the unfettered function of the market mechanism by forestalling diversion of the catch, stealthy transactions, and the emergence of a black market for scarcer superior quality fish. It instilled competitive pricing behavior, led to the establishment of uniform prices for fishes of similar grades, and curbed attempts to evade tax by concealing part of the catch. In addition, localization of transactions, development of specialized trading, and transaction of business on specified market days increased market efficiency and reduced transaction costs by expediting the information flow regarding the quality of the fish, the size of the catch, and the range of prices.[39] Market localization, repeated dealings, common values, and enforceable legal rules promoted personalized exchange between buyers and sellers, which reduced uncertainty[40] and kept transaction costs very low.[41] Finally, the directive was also prompted by concern to uphold fundamental principles of the guild organization, namely, to ensure equal access to commercial opportunities for all members and curb potential monopsonistic proclivities of entrenched members, who might otherwise be prone to buying up the bulk of the catch before other guild members had a chance to make purchases (forestalling).

The Retail Market

The law required that each fish market have a chief (προστατεύοντα), whose duty was to ensure that the profit margin of the retail fish merchants not exceed the legal maximum of 8.33 percent, a figure to be ascertained by comparing the wholesale purchase price at the waterfront and the retail price of the fish in the capital's markets (ἐχούσης

[36] See also below, p. 28.

[37] The location of the wholesale fish market is placed along the Golden Horn and near the Small Gate (Μικρὰ Πύλη): Oikonomidès, *Hommes d'affaires,* 97–99 and map on p. 105; Dagron, "Poissons," 69–70.

[38] Apparently, this tax was levied on fishing activities and fishing installations (e.g., βιβάρια). It could take the form of rent on state concessions. See P. Lemerle et al., *Actes de Lavra* (Paris, 1982), 4:163–64, and (Paris, 1977), 2:162 and passim; R. J. Loenertz, *Démétrius Cydonès: Correspondance* (Vatican City, 1960), 165–66; Matschke, "Situation," 282.

[39] Cf. G. J. Stigler, "The Economics of Information," *Journal of Political Economy* 69 (1961): 213, 216; North, *Institutions,* 27–30, 34.

[40] North, *Institutions,* 22, 25.

[41] For instance, costs associated with ascertaining the condition or other attributes of the fish, checking on the background of the agents involved, protecting property rights, or enforcing agreements in the fish trade, financial arrangements, etc.

μιᾶς ἑκάστης καμάρας καὶ τὸν προστατεύοντα ἐπιτηροῦντα, ὅπως τὲ καὶ ἡ ἐξώνησις ἐν τῇ θαλάσσῃ γέγονε καὶ ὅπως ἡ ἀπεμπόλησις γίνεται, 17.1). To be able to discharge this function, the chiefs had to be present at the consummation of wholesale deals, so that they could be fully informed of the prevailing prices. Also, they had to oversee the orderly conduct of the transactions, ensuring that no part of the catch was withheld from the market and preventing collusive behavior by the parties to the exchange. In addition, every day at daybreak the chiefs had to apprise the eparch[42] of the quantity of the white fish caught during the night, so that the sale in the retail fish markets could be effected in accordance with his instructions (ἵνα κατὰ τὸν τούτου προσδιορισμὸν ἡ ἀπεμπόλησις πρὸς τοὺς ἐν τῇ πόλει γίνηται, 17.4). Finally, the chiefs saw to it that no fish was salted unless it remained unsold and ran the risk of spoilage (17.2). On the other hand, the task of ensuring that the fishing boats moored at the piers or put in at the designated beaches and that fish merchants (wholesalers and retailers) did not make purchases directly from the fishermen by going out to the fishing grounds (17.3) was delegated to the coast guard under the παραθαλασσίτης and his staff.

The Controversy over Profit Margins and Perquisites

The ambiguous formulation of provisions 17.1 and 17.3 of the law has given rise to various interpretations and controversy. Jules Nicole differentiates between the one chief of the guild (*chef de la corporation*) and the several chiefs overseeing the fish markets (*chefs des halles*). In his view, the profit (*bénéfice*) of the chief of the guild amounted to four follis per nomisma (1.4%), an arbitrary increase over the two follis stipulated in the law (17.3), whereas the profit of the chiefs of the fish markets came to one miliaresion per nomisma, or 8.33 percent (17.1). The profit margin of the fish merchants was set at two follis per nomisma, or 0.7 percent (17.3).[43] These percentages were based on the prices paid to fishermen.[44] Edwin H. Freshfield also distinguishes between the guild master who received (following Nicole) 1.4 percent and the "superintendents" of the fish markets who received 8.33 percent for their services, while the fish merchants earned 0.7 percent.[45] Dagron too distinguishes between the chief representing the eparch (προστάτης) and the overseers posted in each fish market in the city (προστατεύοντες). The overseers stationed at the fish markets were not representatives of the eparch or remunerated by him, but were head fish merchants (*chefs-poissoniers*) retained from among guild members by the prefectural authority (*l'authorité préfectorale*) to ensure the functioning of each fish market in conformity with established regulations. The discharge of this task entitled the overseers to a stipulated reward that they could not exceed and were to share with their

[42] Most likely the assessor (σύμπονος), a high-ranking official on the eparch's staff whose duties, *inter alia*, included adjusting weights and measures to conform with changes (positive or negative) in purchase prices of wheat or wine (18.4, 19.1).

[43] The higher denominations of the Byzantine currency and their equivalency were 1 nomisma = 12 miliaresia = 24 keratia = 288 follis.

[44] Nicole, *Livre du Préfet*, 67, 68 and n. 1.

[45] Freshfield, *Byzantine Guilds*, xix, xx, 40, 41. Attention to the distinction between two sets of chiefs made by Nicole and Freshfield was first drawn by E. Papagianni, "Μοναχοὶ καὶ Μαύρη Ἀγορὰ στὸ 12ο Αἰῶνα. Παρατηρήσεις σὲ Προβλήματα τοῦ Ἐπαρχικοῦ Βιβλίου," Βυζαντιακά 8 (1988): 67–69.

fellow members (*associés*) or workers. The total profit (*bénéfice*) amounted to 9.7 percent and was fixed at two stages: 0.7 percent at the time of the purchase of the fish from the fishermen and applied to all fish merchants in each fish market,[46] plus another 0.7 percent for their προστάτης; and 8.33 percent for the προστατεύων of each fish market at the time of the resale on the retail market. The 8.33 percent made up the commercial profit proper, accruing to the head merchants in each fish market and distributed to the other members, whereas their 1.4 percent supplementary "benefit" defrayed transport costs from the waterfront to the fish markets and the payment of gratuities (συνήθειαι) to numerous government officials,[47] an expense that was shared equally by the fish merchants and their patron.[48] Finally, it has been argued that the chiefs of the fish merchants were entitled to compensation both as members of the guilds and as appointees and representatives of the eparch. When the chiefs took part in the fish trade, they gained 0.7 percent as did all other fish merchants; when they acted as overseers representing the eparch, they collected the special reward of 8.33 percent.[49]

Though imaginative, these interpretations of the law about the entitlement and allocation of profit margins and perquisites appear strained. Indeed, the formulation of provision 17.1 seems to suggest that the chiefs of the guild of the fish merchants received, as a perquisite for performing their supervisory duties, one miliaresion per nomisma, that is, 8.33 percent, on the realized sales in the capital's fish markets (ὥστε ἐν τῷ νομίσματι αὐτὸν ἐναποκερδαίνειν μιλιαρίσιον ἕν). Provision 17.3 meanwhile suggests that both fish merchants and their chiefs each earn two follis apiece on the nomisma, that is, 0.7

[46] Dagron, "Poissons," 71 n. 66, correctly disputes Koder's amendment of the fish merchants' profit margin from 2 follis to 2 keratia (from 0.7% to 8.33%) in provision 17.3 in his edition of the law (*Eparchenbuch,* 128). More precisely, though, 0.7% was the profit margin set for the wholesalers. See below, p. 26.

[47] Dagron, "Poissons," 70, 72, appears to accept uncritically the inflated assertions of a 12th-century letter writer: I. Tzetzes, *Epistulae,* ed. P. A. M. Leone (Leipzig, 1972), 79–84, no. 57, a source of dubious validity. Tzetzes maintains that the fish merchants were coerced by the eparch's lieutenants to pay them part of their earnings (μερίδα δοθῆναι: ibid., 81–82). The hyperbolic tone and sweeping pronouncements of the letter, suggesting, *inter alia,* widespread extortion and implicating high-ranking officials among the eparch's staff, including the chiefs of the fish merchants' guild (referred to as ἐπιτηρηταί) and others not even remotely connected with the fish trade (e.g., πρωτοκαγκελάριοι [chiefs of bureaus], δομέστικοι [private secretaries], μανδάτορες [messengers], ἐπόπται [inspectors], καὶ πάσῃ τάξει περὶ ἔπαρχον [and everybody in the eparch's office]), casts serious doubt on the author's accuracy and fairness. Tzetzes' disparaging remarks actually refer to gratuities paid to collectors of various taxes and their retinue and to *ad hoc* inspectors. See G. Rouillard, "Les taxes maritimes et commerciales d'après des actes de Patmos et de Lavra," *Mélanges Charles Diehl* (Paris, 1930), 1:284–85, 288–89; N. Oikonomidès, *Fiscalité et exemption fiscale à Byzance (IXe–XIe s.)* (Athens, 1996), 77–80, 88–89; J. Karayannopoulos, *Das Finanzwesen des frühbyzantinischen Staates* (Munich, 1958), 168, 174. In this context, A. Harvey, *Economic Expansion in the Byzantine Empire, 900–1200* (Cambridge, 1989), 106, aptly comments that tax collectors "were always maligned by Byzantine letter writers and reality is clouded by a mass of rhetoric." In the case of the fish trade, apparently no *ad hoc* tax was levied on fish merchants, and hence no tax collectors were involved. So, gratuities were limited to customary gifts in kind (fish) on holidays and special occasions, and to officials with direct supervisory functions over the fish markets (probably city inspectors). It would seem therefore that the extent and frequency of the gratuities is exaggerated. On the officials serving in the eparch's office, see J. B. Bury, *The Imperial Administrative System in the Ninth Century* (London, 1911), 69–73, 139; R. Guilland, "Etudes sur l'histoire administrative de l'Empire byzantin–L'Eparque, I. L'Eparque de la ville—Ὁ Ἔπαρχος τῆς Πόλεως," *BSl* 41 (1980): 22–26.

[48] Dagron, "Poissons," 71–72.

[49] Papagianni, "Παρατηρήσεις," 69–70, 73. Consistent with his interpretation of the stipulated profit, Dagron contests this view: "Poissons," 71 n. 67.

percent (ἀποκερδαίνοντες [οἱ ἰχθυοπράται] καθ' ἓν νόμισμα ἀνὰ φόλεις δύο καὶ οἱ τούτων προστάται ἀνὰ φόλεις δύο), based on waterfront prices. Anastasios P. Christophilopoulos,[50] concurring with Panayotes Angeletopoulos,[51] maintains that the stipulated 8.33 percent award in provision 17.1 pertains both to fish merchants and the chiefs of the guild. In his view, the notion that provision 17.1 establishes the remuneration of the chiefs and provision 17.3 that of the fish merchants is "unacceptable," on grounds that the latter's 0.7 percent profit margin is paltry and unrealistic compared to the 8.33 percent received by their chiefs. Besides, he notes, the chiefs' rate is explicitly set at 0.7 percent in provision 17.3. Christophilopoulos, therefore, correctly suggests that αὐτόν (him) in provision 17.1 should be read αὐτούς (them), that is, the fish merchants. With this emendation, the gross profit margin of the *retail* fish merchants becomes 8.33 percent, which makes sense, since they had to cover transport costs and other operating expenses. In fact, if the respective turnover rates are taken into account, it is comparable with those of other retailers, for example, the 4.2 percent (plus the 16.66% allowed for operating costs) earned by bakers (18.1) or the 16.6 percent by grocers (13.5).

Yet, it can hardly be accepted that provision 17.3, as emended, refers to perquisites of the chiefs as well. In fact, provision 17.3 sets the profit margin for the wholesale fish merchants, who bought large quantities of fish from the fishermen, and this explains the prescribed small profit margin of 0.7 percent, which is not insignificant when applied to the volume handled. Contrary to common belief,[52] the chiefs of the guilds were not, and realistically could not have been, members of their respective guilds, as they could hardly be trusted to be impartial in the discharge of their functions because they had a vested interest. The law nowhere indicates that the chiefs of the professional guilds ought to be members, nor was the eparch directed to select them from among guild members.[53] Since all other officials involved in the guilds' activities were public functionaries, it would be odd if the chiefs of the guilds were the exception. Given the nature of their responsibilities, they had, *a fortiori,* to be outsiders (or at least former guild members who had given up their trade permanently and could be trusted) and their salaries had to be paid directly by the treasury. In implementing the law, the state employed disinterested civil servants paid by the *fiscus* rather than self-interested guild members, because only in this way could it ensure that they would fulfil their duties competently and impartially. Therefore, contrary to what has been asserted,[54] the chiefs of the fish merchants were

[50] Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 62 n. 2.

[51] P. Angeletopoulos, "Σημεῖα τινὰ τοῦ Βυζαντινοῦ Δικαίου," Δικαιοσύνη 2 (1924): 72.

[52] Stöckle, *Byzantinische Zünfte,* 84; Boak, "Book of the Prefect," 599; Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 47–48, 49 and n. 1; Oikonomides, "Entrepreneurs," 155; Papagianni, "Παρατηρήσεις," 69; Matschke, "Situation," 282; J. Koder, "Ἐπαγγέλματα σχετικά μέ τόν ἐπισιτισμό στό Ἐπαρχικό Βιβλίο," in Ἡ καθημερινή ζωή στό Βυζάντιο. Τομές καί συνέχεια στήν ἑλληνιστική καί ρωμαϊκή παράδοση. Ἁ διεθνές συμποσιο, 1988 (Athens, 1989), 370–71, maintains that the chiefs of the guilds, though officials of the state, were chosen from among their members.

[53] The only exception was the association (σύλλογος) of notaries, who performed quasi-judiciary functions and had to meet special requirements, in particular, knowledge of the law, in order to qualify (1.1 and 1.2). Besides, the association of notaries was not a guild.

[54] Nicole, *Livre du Préfet,* 67, 68 and n. 1; Freshfield, *Byzantine Guilds,* xix, xx; Zoras, *Corporazioni Bizantine,* 197; Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 62 n. 2; Runciman, "Byzantine Trade and Industry," 159; Papagianni, "Παρατηρήσεις," 67, 69; Dagron, "Poissons," 71–72.

not remunerated for discharging their assigned supervisory duties, because they were salaried employees of the state.[55] However, provision 17.3 allowed the chiefs to accept and share an *extra* reward totaling 0.7 percent of the market value of the catch as compensation for the unpleasantness, hardship, and inconvenience inherent in the exercise of their duties—they had to be on the waterfront by daybreak every day, regardless of weather conditions, and function in uninviting surroundings. Extra payment for services viewed as being to the advantage of all parties and rendered under taxing conditions or beyond the call of duty were not unusual. The chief of the cattle market inspectors, for example, received four miliaresia for each stolen animal he recovered and, when disputants submitted to his arbitration, he was entitled to a fee of six follis for every nomisma of the disputed amount (21.10).

Similarly, the supposed distinction between chiefs of the guild and chief overseers of the fish markets is specious and unwarranted on a number of grounds.[56] In the first place, it is not supported by the text of section 17 of the *Book of the Eparch,* which, if anything, suggests equality among the chiefs. In provision 17.3, the expression καὶ οἱ τούτων προστάται [ἀποκερδαίνοντες] ἀνὰ φόλεις δύο does not imply that the chiefs of the fish merchants were involved in the fish trade, as has been argued,[57] since the discharge of the dual function of trader and overseer would not only be impractical but present a conflict of interest. Nor does the provision suggest any division of labor among the chiefs: after being assigned to their posts, the chiefs oversaw both the wholesale and retail fish trade, and also called on the eparch to report on the size of the catch of white fish. Provision 17.1 clearly states that the chiefs oversaw how the purchase in the waterfront and the selling in the markets proceeded (ὅπως τὲ καὶ ἡ ἐξώνησις ἐν τῇ θαλάσσῃ γέγονε καὶ ὅπως ἡ ἀπεμπόλησις γίνεται).[58] Such differentiation introduces an unnecessary and unaccounted for new stratum of public officials at a level below the chiefs, something not attested in the law, or in any other source for that matter.[59] Interposition of such "superintendents" or "head fish merchants" appointed by the "prefectural authority" is arbitrary and unfounded. There is no compelling reason to make this distinction for the guild of the fish merchants when it is not made for any other guilds that also had more than one chief and operated under similar conditions, including dealers in raw silk (6.4), pork dealers (16.3), and tavernkeepers (19.1), and probably, as has been suggested, for

[55] In fact, administrators in Byzantium were paid directly from the treasury: A. Kazhdan and G. Constable, *People and Power in Byzantium: An Introduction to Modern Byzantine Studies* (Washington, D.C., 1982), 151.

[56] Stöckle, *Byzantinische Zünfte,* 79; G. Mickwitz, *Die Kartellfunktionen der Zünfte und ihre Bedeutung bei der Entstehung des Zunftwesen* (Helsinki, 1936), 220; Zoras, *Corporazioni Bizantine,* 66–67; Macri, *Économie urbaine,* 72–75; A. Vogt, *Basile Ier et la civilisation byzantine à la fin du IXème siècle* (Paris, 1908), 143, make no such distinction. A contributing factor in making this dichotomy may have been the awkward formulation of provision 17.1: "ἐχούσης μιᾶς ἑκάστης καμάρας καὶ τὸν προστατεύοντα ἐπιτηροῦντα, ὅπως . . ."; probably it was read as "each fish market having a chief-supervisor." If the comma is placed after προστατεύοντα, as it should be, the passage reads "each fish market has a chief, who sees to it how . . ." Koder, apparently believing that the comma was misplaced, dropped it altogether from the Greek text: *Eparchenbuch,* 126.

[57] Stöckle, *Byzantinische Zünfte,* 84; Papagianni, "Παρατηρήσεις," 69–70; Dagron, "Poissons," 71–72; Koder, "Ἐπαγγέλματα," 370–71.

[58] Cf. Zoras, *Corporazioni Bizantine,* 197.

[59] E.g., in the Kletorologion of Philotheos (Bury, *Imperial Administrative System,* 139), which lists the eparch's supervisory staff.

the guilds of the perfume dealers (10), candlemakers (11), butchers (15), and bakers (17) on whom the law is silent.[60] The existence of lower-level superintendents would obviate the need for more than one chief. Yet, provision 17.4 clearly stipulates that the chiefs (plural) of the fish merchants (οἱ τῶν ἰχθυοπρατῶν προστατεύοντες) should report *collectively* to the eparch on the size of the white fish catch. Because of their low rank in the administrative hierarchy, it is unlikely that such "superintendents" or "head fish merchants" would be authorized to communicate directly with the eparch, in effect supplanting the chiefs of the guild who truly represented the eparch. In Dagron's profit allocation scheme, wholesale and retail profit margins are combined, although they may well not have accrued cumulatively to the same individuals, since apparently wholesalers did not retail fish. Further, transport costs were borne primarily by the retailers and differed for each of them, whereas gratuities were shared by both wholesalers and retailers unequally, a fact that calls for discrete and individual treatment of these costs.[61] Also, it is very unlikely that workers participated in any profit-sharing scheme. Finally, as fish was purchased in designated locations, it would be necessary that *all* chiefs be familiar with the size and composition of the catch and prevailing wholesale prices in order to be in a position to advise the eparch and make sure that fish merchants did not exceed the prescribed profit margins (17.1, 17.3).

A related issue that deserves comment pertains to the punishment meted out for infractions arising from the conduct of the fish trade. The last sentence of provision 17.4 stipulates that whoever contravened the ordinance should be flogged, shorn, and expelled from the guild. It has been argued that the punishment was applied both to the chiefs of the guild and to the fish merchants.[62] Apparently, the proponents of this view were misled because the relevant passage was inappropriately included at the end of provision 17.4, which directs the chiefs to report the size of the catch of white fish to the eparch, instead of forming a separate provision 17.5 dealing with all conceivable transgressions alluded to in provisions 17.1, 17.2, and 17.3. There can be no doubt that the tenor of the passage, οἱ δὲ παρὰ ταῦτα τολμῶντες διαπράττεσθαι, clearly refers to breaches by fish merchants and pertains to all infractions; they were not, and could not be, applicable to the chiefs. Not being members of the guild, the chiefs could not possibly be expelled, while as state officials they were subject to the disciplinary actions provided

[60] Stöckle, *Byzantinische Zünfte,* 79.

[61] It is not clear from provision 17.1 whether the retailers' markup was based solely on the wholesalers' purchase price or if it also included their profit margin, thereby raising the base on which the retailers' own markup was computed. Judging from the directive that the chiefs ascertain the price paid for the fish at the waterfront (17.1) and the bakers' rather low profit margin (4.2%), probably the retailers' markup was estimated on the wholesalers' purchase price (=waterfront price)—an unambiguous formula, suggesting that the retailers had to absorb the wholesalers' markup. Also, the chiefs' reward for common service to all fish merchants was shared by wholesalers and retailers, probably on the basis of their financial means. Very likely, the chiefs were paid in cash by the wholesalers from amounts withheld from the retailers at the time of the purchase. Finally, the stipulated profit margins were: (a) maximum, implying that they might not always be attainable due to market conditions; and (b) gross, suggesting that operating expenses, transport costs, contributions to the chiefs, *ad hoc* gratuities, etc., would also have to be absorbed. According to him, the chiefs were of lowly status and members of the fish merchants' guild (p. 84).

[62] Stöckle, *Byzantinische Zünfte,* 84, 128–29, 133; Papagianni, "Παρατηρήσεις," 66 n. 23. Papagianni maintains that according to Stöckle the penalties applied only to chiefs of the guild. Yet, Stöckle (p. 84) is quite emphatic that guild members were also subject to the same penalties.

for civil servants in cases of dereliction of duty. Such provisions certainly could not be included in the *Book of the Prefect,* whose rulings applied strictly to members of the guilds.[63]

Price Formation

Composition of the Catch

The fish markets of Constantinople were supplied by migratory (notably of the tunny and mackerel families),[64] semi-migratory, and sedentary species. The Sea of Marmara and the Black Sea were major fishing grounds, but they experienced seasonal migratory patterns, good and bad brood years,[65] changeable climatic conditions, and other inherent uncertainties[66] that could result in considerable volatility of the annual, seasonal, and daily catch.[67] The composition of the catch can be broadly distinguished into superior quality white fish (λευκοὶ ἰχθύες), which included half a dozen or so highly prized species in limited supply and commanding of relatively high prices,[68] and common, mostly inferior fish that accounted for the bulk of the catch and fetched considerably lower prices.[69] The latter's relative abundance provided a low-cost diet for the low-income inhabitants of the capital, while the much lower priced preserved fish remained the mainstay of the

[63]Cf. Christophilopoulos, Ἐπαρχικὸν Βιβλίον, 63–65; Macri, *Économie urbaine,* 91–97; Zoras, *Corporazioni Bizantine,* 143–47.

[64]For the seasonal migratory pattern of such fishes, see A. Koraes, ed., Ξενοκράτους καὶ Γαληνοῦ: Περὶ τῆς ἀπὸ τῶν ἐνύδρων τροφῆς (Paris, 1814), 65; Dagron, "Poissons," 57–58. The back and forth migration of fish between the Black Sea and the Sea of Marmara resulted in two intensive harvesting peaks each year, each lasting one to four weeks. Dagron, "Poissons," 58.

[65]Gordon, "Fishery," 126.

[66]As the adage goes, ἁλιοῦ [ἁλιέως] καὶ πουλοπιάστου ἄδηλος βίος (the life of the fisherman and of the bird catcher [hunter] is uncertain), cited by P. Koukoules, Βυζαντινῶν Βίος καὶ Πολιτισμός (Athens, 1952), 5: 339. In the same vein, . . . οὐ παρέστιν ὀψάριον, τῶν ἁλιέων παντελῶς ἀποτυχόντων ἄγρας (There was no fish because the fishermen put to sea but returned empty-handed) in D. Papachryssanthou, ed., "Un confesseur du second Iconoclasme: la vie du patrice Nicétas (836)," *TM* 3 (1968): 329, chap. 2.2. Cf. also H. Delehaye, ed., *Les saints stylites* (Brussels, 1923), 212.7–11, 16–18; 213.19–20. Sometimes, fishermen not only failed to catch any fish but also lost their fishing gear in stormy seas: *vita* of Thomais of Lesbos, *AASS,* Nov. 4:240, chap. 21.1–8.

[67]For the various fishing modes and devices employed in Byzantium, see Koukoules, Βυζαντινῶν Βίος, 331–41; Dagron, "Poissons," 60–64.

[68]They included red mullet (συναγρίς), red snapper (ἐρυθρῖνος, λεθρίνι), grey snapper (σφυρίς), surmullet (φαγκρί, συναγρὶς ἡ μονόφθαλμος), bass (λάβραξ), grey mullet (κεστρεύς, κέφαλος), mullet (τρίγλη, μπαρμπούνι) and porgy (τσιπούρα, χρυσόφρυς ὁ ἐπίχρυσος). As these species are found only in the eastern Mediterranean, the English equivalents are proximate.

[69]On the several dozens of species found in the area, their qualities and popular regard see Koukoules, Βυζαντινῶν Βίος, 79–86; K. Krumbacher, "Ὁ Ψαρολόγος," *Das Mittelgriechische Fischbuch* (Munich, 1903), 361–62; Koraes, Περὶ τῶν ἐνύδρων τροφῆς, passim; D. C. Hesseling and H. Pernot, *Poèmes prodromiques en grec vulgaire* (Amsterdam, 1910), 3:52, vv. 94–96, 99; 55, vv. 152–54, 159–63; 56, vv. 179–80, 204–5; 57, vv. 216 j–l, y; 59, vv. 258–59; 63, vv. 325a, 325c, 325k; 4: 74, vv. 27–28; J. Darrouzès, ed., *Epistoliers byzantins du Xe siècle* (Paris, 1960), 180–81, letter 19; 199–200, letter 45; 322–23, letter 6; 364–65, letter 29; 366–67, letter 32; R. Romano, ed., *Pseudo-Luciano, Timarione* (Naples, 1974), 69, vv. 538–42. It is noteworthy, that the scombroid family of tunnies (θύννος, θυννίς, κολίας, ὄρκυνθος, πηλαμύς) and mackerel (σκόμβρος) were viewed as the lowest quality fish and were described as stinking (θύννα ἡ βρωμιαρέα): Hesseling and Pernot, *Poèmes,* 3:52, v. 99; crummy, lean, and foul (παλαμίδες ποταπές, σαχνὲς καὶ βρωμισμένες,): ibid., 3: 57, 2161; heavy (βαρεῖς), constipating (οὐκ εὐστόμαχος), indigestible (δύσπεπτος), flatulent (φυσώδης), impure (ψαφαροί), and unwholesome (κακόχυμοι): Koraes, Περὶ τῶν ἐνύδρων τροφῆς, 4, 65–66.

poorest people all year round. It is noteworthy in this context that most contemporary scholars suppose that the white fish referred to in provision 17.4 were tunnies.[70] The notion that white fish = tunnies is inaccurate, since the description of white fish (=white flesh) hardly fits the darkish, low-quality, migratory tunny fish varieties and mackerel available locally and in large quantities.[71]

Transaction Patterns

Given the scores of fish species included in the daily catch, a practical and fair way had to be devised for pricing, computation of profit margins, and exercise of the chiefs' supervisory task. To this end, and to observe the letter and spirit of the law, it is likely that fishermen divided their catch into white fish and common fish. The former included a rather small number of similar species of superior quality, some belonging to the same family and being close substitutes for each other;[72] they were in limited supply and constant demand, fetching similar high prices. The latter accounted for the bulk of the catch and consisted of diverse species, including the highly seasonal migratory varieties (e.g., tunnies). This diverse group was subdivided into species or clusters of species of similar quality that were close substitutes of each other and exhibited minimal, if any, price differential. In this way, the range over which prices had to be negotiated at the waterfront was narrowed significantly, a reasonable basis for calculating the wholesalers' and retailers' markups could be conveniently established, and chiefs were able to keep records, compare buying and selling prices, and ensure that profit margins did not exceed the prescribed levels.[73]

The law did not stipulate that the fish merchants' guild was required to purchase the entire daily catch; but, to ensure that all landed fish were traded (i.e., actually offered for sale), it provided that only the surplus fish (εἰ μὴ τοὺς περιττεύοντας [ἰχθύας]) could be salted to prevent spoilage (17.2). This frustrated efforts to withhold stealthily part of the catch for the purpose of marketing it locally or exporting in processed form in order to maintain or raise prices. The pressure of excess supply, giving rise to surpluses of fish fit for salting and pickling,[74] must have been felt particularly during seasonal peaks,

[70]Nicole, *Livre du Préfet,* 68 and n. 2; Boak, "Book of the Prefect," 616; Freshfield, *Byzantine Guilds,* 41 and n. 1; Mickwitz, *Kartellfunktionen,* 220; Macri, *Économie urbaine,* 74; Dagron, "Poissons," 70.

[71]See notes 68 and 69. Harvey also holds that it was the daily catch of the less common high-quality fish (=white fish) that was reported to the eparch: *Economic Expansion,* 170–71.

[72]Products are considered close substitutes if a change in the price of any of them will affect noticeably the quantity purchased of the others. The more close substitutes a family or cluster of species has, the greater the potential for substitution in the face of price changes and the greater the tendency for price uniformity, whether the stimulus comes from the demand or the supply side.

[73]There are indications that fish was sold by weight or number for a fixed price: Dagron, "Poissons," 72–73. However, differences in size, and hence in weight, would hamper sale by number, probably confining this practice to cheaper varieties of fish. Sale by weight was common for bread (18.1.4) and wine (19.1), where price fluctuations were reflected by keeping the price constant and varying the quantity sold. The regulation is founded on the belief that consumers would find it less difficult to accept a smaller portion for a certain price than to be made to pay more for the same portion: Stöckle, *Byzantinische Zünfte,* 100–101. This psychological gimmick introduced a false aura of price stability but had no practical effect different from varying prices for a fixed quantity.

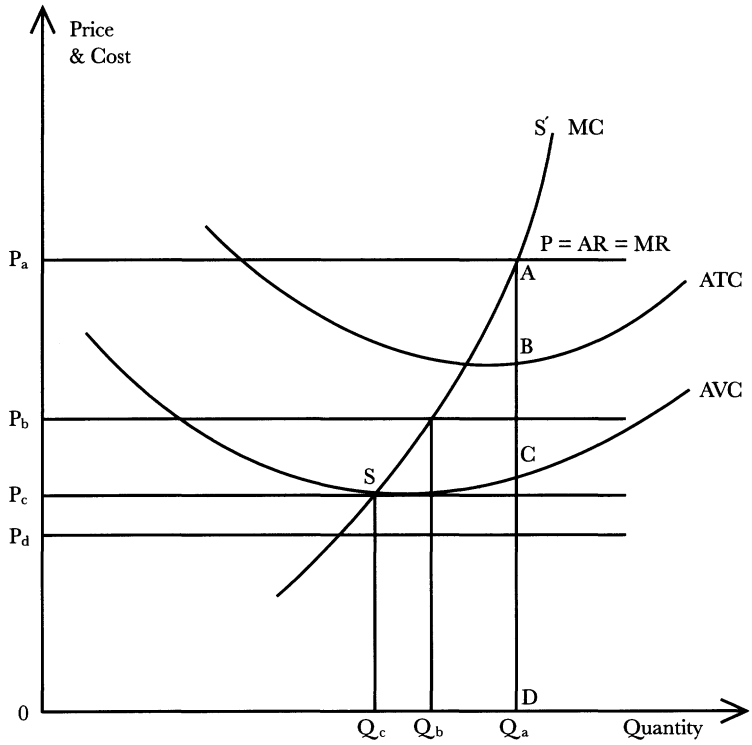
[74]Fishes that were cured included sardines (σάρδαι, θρίσσαι), tunnies (πηλαμύς, θύννος), mackerel (σκόμβος), swordfish (ξιφίας), and grey mullet (κεστρεύς). See Koukoules, Βυζαντινῶν Βίος, 5: 81–2, 84–85 and the sources cited therein; Hesseling and Pernot, *Poèmes,* 2: v. 42b; 3: vv. 94, 179.

when the absorptive capacity of the fresh fish market was strained. In these situations fishermen might be forced to make difficult decisions: either reduce the size of the catch or, at least temporarily, accept prices that minimally covered average variable costs (see Fig. 1).[75] To be operational, therefore, the notion of surplus must reflect market realities and the decision-making process of the players, as the day market set a price for each fish species (or family of fish) independently of the fishermen's costs. This price depended on the extent of the processible surplus, the prevailing market (demand and supply) conditions in the fresh and preserved fish markets, and the bargaining power and skills of the buyers and sellers. At times, these prices could be so depressed as to result in negative profits. Indeed, one might expect that processors, even if they operated competitively, would be inclined to offer very low prices, in the knowledge that their refusal to buy would mean total loss for the sellers, thereby driving prices to unprofitable levels. Also, the fact that preserved fish was consumed by the poorest segments of the population and was marketed through the intermediation of the grocers, who added a sizable markup, would tend to depress further the processors' offer price. To embody these economic circumstances, the notion of "surplus" as applied in provision 17.2 should be understood as meaning unsold fish about to spoil that could not be disposed of at unprofitable prices for any stretch of time. Put differently, fishermen could absorb infrequent but not persistent losses, since in the end they had to fetch prices that enabled them to cover their full costs and earn a normal profit in order to stay in business.

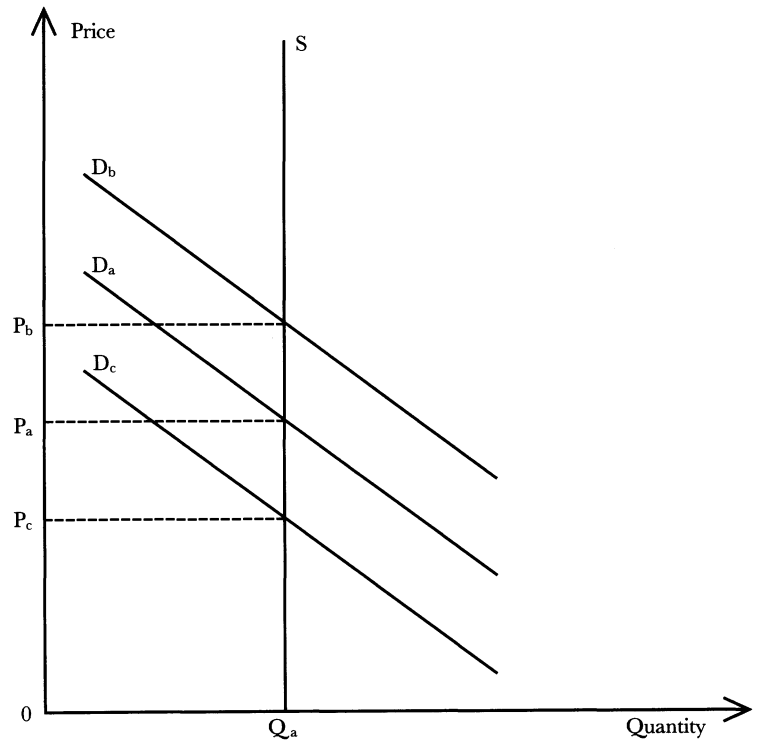
Processors procured their fish from both fishermen and fish merchants,[76] although their primary source was very likely to have been the fishermen. Wholesalers, being in a better position to assess the proximate quantities the market could absorb each day, would limit their purchases to these estimates, since any additional amounts would remain unsold and would have to be turned over to processors at low prices, thereby cutting into their profits. On the other hand, if the price the wholesalers offered was less than the average variable costs of the most efficient fishermen, say in an attempt to take advantage of larger catches during the migration seasons, while the price the fishermen ex-

[75] In Figure 1, P=price=average revenue (AR)=marginal revenue (MR); total revenue=TR; TC=total cost; MC=marginal cost; ATC=average total cost; AVC=average variable cost; AFC=average fixed cost. The general principle under perfect competitive conditions is that the individual fisherman (like any enterprise owner) as a price-taker will adjust his output so as to maximize his net profit, i.e., the excess of total revenue over total cost. To do so, in the short run he will equate P=MC. Thus, if the going price is Pa, the fisherman will supply the quantity OQa of species x and earn a net profit AB × OQa, which is the difference between TR=AD × OQa and TC=BD × OQa. By the same token, unit profit=AB=AD(=AR)–BD(=ATC), where BD(=ATC)=BC(=AFC) + CD(=AVC). If the price of fish fell to Pb, in the short run the fisherman might decide to stay on temporarily supplying OQb, despite the fact that he does not cover his full cost, as long as Pb is higher than AVC. The reason is that at Pb the fisherman minimizes his loss as he covers AVC plus part of AFC. However, at any price below Pc which just covers AVC, say Pd, he cannot cover his current expenses, let alone his fixed costs, and hence he cannot continue in business by making negative profits. It follows that in the short run the fishermen's supply curve is the portion of the MC curve that lies above the AVC curve (SS'). It is also clear that, in order to remain in business in the long run, the fisherman must equate P=MC=ATC, i.e., the going price must cover his full cost. (By assumption, ATC includes normal profit.) For details see C. E. Ferguson *Microeconomic Theory* (Homewood, Ill., 1969), 227–49; L. G. Anderson, *The Economics of Fisheries Management* (Baltimore, 1986), 56–89; A. W. Stonier and D. C. Hague, *A Textbook of Economic Theory* (London, 1957), 157–61.

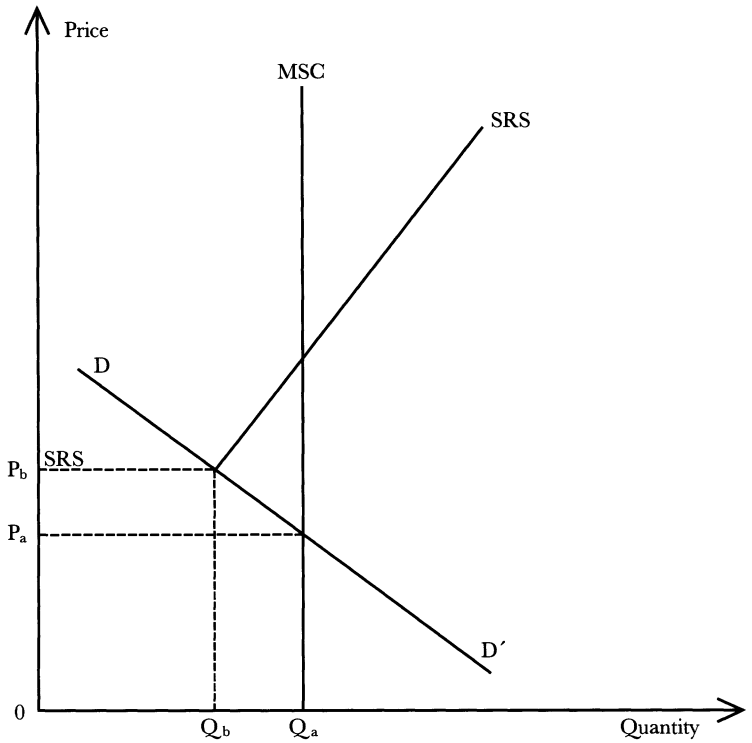
[76] Provision 17.2 advisedly specifies those who *sell* fish (τοῖς ἀπεμπολοῦσι) to indicate that either group could dispose of the surplus (=unsold) fish.



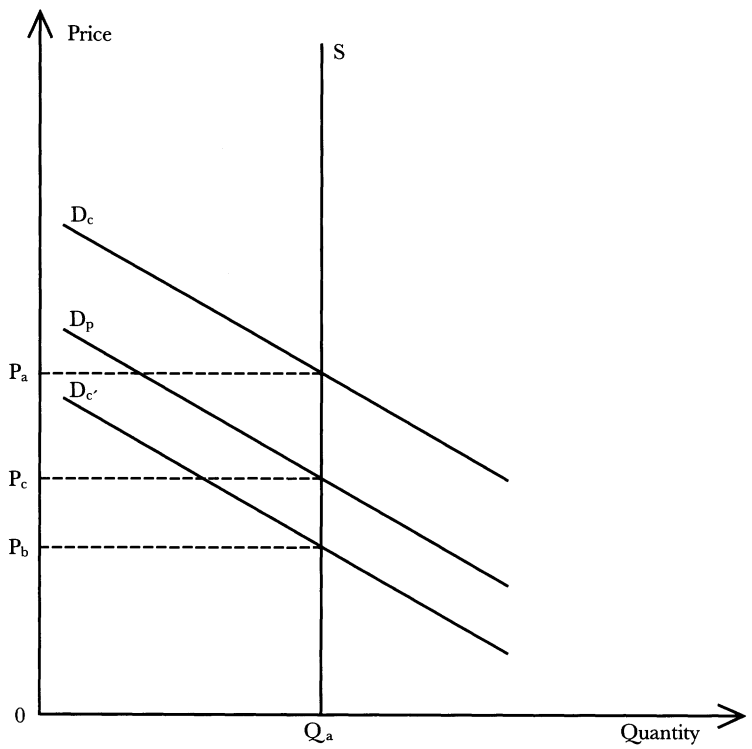
1 Pricing strategies under perfect competitive conditions



2 Pricing and demand in a competitive day market (fixed supply) environment



3 Effect of persistent price levels below average variable costs



4 Effect of an alternate floor price (sales to processors) in face of lowered demand

pected to obtain by selling to processors was at least equal to their average variable costs, the fishermen, understandably, would balk and prefer to sell to processors, rationalizing their action as disposing of a *bona fide* surplus. Certainly, surpluses must have often emerged at the distribution level as well, as a result of miscalculation of demand by wholesalers and retailers or from unanticipated shifts in demand. In such instances, merchants would find themselves at the end of the day with unsold fish becoming stale and no alternative but to sell to processors at whatever price they could fetch. Thus, aside from preventing the waste of an essential nutritional resource, an important effect of the existence of a processing stage as a separate activity undertaken by independent businessmen was the development of an active market for preserved fish and an attendant price structure for certain varieties of processed fish, which, by siphoning off an important part of the catch that could not be absorbed, alleviated the pressure of excess supply.

Finally, intriguing questions of operational significance can be raised concerning the manner in which business transactions were organized and conducted among the parties to the exchange in the wholesale fish market. Being fewer in number, did wholesalers act and bargain collectively, or did they deal on an individual basis with the fishermen? Did they negotiate with major fishermen or a designated spokesman for the fishermen? Did fishermen develop ties with particular wholesalers to whom they tendered their catch and whom over time they came to trust, accepting the price they offered unquestioningly? To what extent did the vulnerability of the fishermen because of the perishable nature of their product affect their bargaining power? Could the numerous and unorganized fishermen forge a common counteractive stance through some cooperative scheme in their dealings with the wholesalers, who were organized and fewer in number? Did the fishermen tacitly recognize a price leader, who would take the initiative to set a price and whose subsequent price changes would be matched by the others? Who took the first step to post a price, the wholesalers or the fishermen? Were prices set on a take-it-or-leave-it basis, or was there opportunity for bargaining? Was the fish auctioned at the waterfront? Could wholesalers also take advantage of the numerous and competitive retailers? Evidently, transaction patterns and the ensuing give-and-take affected decision making and price determination.

Wholesale Price Determination

The fact that fish is a perishable commodity, more so under the conditions prevalent in the tenth century, gave rise to a day market in the sense that all sellers (fishermen, wholesalers, retailers) were compelled to offer their product on the same day and accept any price, since unsold quantities could not be stored. This had far-reaching implications for the functioning of the fresh fish market and price determination. Since the market period lasted a single day and sellers could not adjust the quantities offered, for example, by withdrawing part of the catch, the supply of fish in the aggregate and for each species was fixed and limited to the size of the daily catch. In technical terms, this fundamental feature translated into a perfectly inelastic (vertical straight line) supply curve for each seller and each variety (or family) of fish, meaning that the position (=strength) of the demand curve alone determined the price at which the market would be cleared. And, since the fixed supply in a day market ceases to be related to the seller's cost structure,

price can fall below average variable costs and sales can result in subnormal and even negative profits (see Fig. 2).[77] The only way fishermen could react to persistent price levels that did not cover their average variable costs in the *short run*[78] and their average total (fixed plus variable) costs in the *longer run* was either by reducing the size of their catch or for some of them to withdraw from the market. Thus, the adjustment ultimately would take the form of a fall-off of the daily quantity of fish offered for sale until prices were raised to levels that would again make it possible for fishermen to operate profitably and stay in business (see Fig. 3).[79]

As already discussed, the fresh and processed fish markets were connected for certain fish varieties, a link that added a new dimension to and had important implications for pricing in this portion of the catch. When faced with excess supply, fishermen had no alternative but to dump any unsold quantities on the fish-processing market. The price they obtained in this market might vary, depending on demand and supply conditions for processed fish, the quantity of the surplus fish offered for processing, and the bargaining power and negotiating skills of the parties to the exchange. The fact that unsold fresh fish would ultimately go to waste could have weakened the negotiating position of the fishermen (or the fish merchants, for that matter), possibly pushing prices below even average variable costs and setting in motion the fishermen's defense mechanism—cutting back on the fish supply. Thus, the demand for low-value fish about to spoil and that could be utilized only in processed form effectively set a minimum below which the price of fresh fish in the day market could not fall (see Fig. 4).[80]

[77] In the day market period and under competitive conditions, fishermen cannot adjust their output and hence the supply of fish is fixed at OQa as seen in Figure 2. The price at which the market will be cleared is determined, therefore, by demand alone, while supply alone determines the market equilibrium quantity. Thus, if the day market demand is given by Da, the market equilibrium price will be Pa, where demand equals supply. If demand is greater, say Db, the price would also be greater, Pb, but the market equilibrium quantity would be the same as before because the supply is fixed. Similarly, if demand was less, Dc, the price would be lower, Pc, while the same quantity would be marketed. For details see Ferguson, *Microeconomic Theory*, 226–27; Stonier and Hague, *Textbook of Economic Theory*, 153, 156–57.

[78] Depending on individual circumstances, a price below average variable cost could mean that a fisherman might not be able to earn even a subsistence wage. This can also happen to inefficient (i.e., high-cost) fishermen at prices even above average variable cost.

[79] In Figure 3, the original day market equilibrium is achieved at price Pa and quantity OQa, shown by the intersection of the day market supply curve MSC and the demand curve DD′. However, if this price is unprofitable, fishermen will adjust to the new conditions by restricting their catch. The short-run supply curve SRS reflects the downward adjustment in supply as fishermen react to prevailing unprofitable prices. At any price below Pb no fish will be supplied, whereas at progressively higher prices more will be offered, and vice versa. In this example, quantity OQb is supplied at price Pb as indicated by the intersection of the demand curve DD′ and the short-run supply curve SRS, which is higher than the original day market price Pa. Longer term adjustments will be affected by the variability of the factors of production, the presence or absence of external economies and diseconomies, and the imperative that fishermen cover their full costs. Hence, the long-run supply curve may be flat, rising, or even falling. It is worth noting that, strictly speaking, the terms "short run" and "long run" are not definite periods of time but sets of operative conditions and, in consequence, there can be no sharp or exact distinction between the two. Whether conceived as sets of conditions or as time periods, the two merge. For details on this last point, see D. S. Watson, *Price Theory and Its Uses* (New York, 1968), 190.

[80] In Figure 4, the day market equilibrium price is Pa and the quantity of fish supplied OQa, corresponding to the intersection of consumer demand Dc and supply curve S. If consumer demand drops to Dc', exhausting the absorptive capacity of the market and lowering price to Pb, while the processors' demand Dp was higher resulting in price Pc greater than Pb, it is evident that the fishermen would rather sell to proces-

Gunnar Mickwitz argues that the fish merchants (he does not differentiate between wholesalers and retailers) had to abide by regulations obliging them to make purchases collectively by forming a cartel. Prices, therefore, were set cooperatively and competition among guild members was avoided; this enabled them to exercise monopsonistic purchasing power over the fishermen and acquire fish at lower than competitive prices. By suggesting this pricing pattern—and in a sweeping generalization—Mickwitz groups the fish merchants with the *importers* of raw silk, Syrian silks or linen.[81] Yet, the law does not even hint that the fish merchants had a statutory obligation to act in concert in their purchases, whereas it does so stipulate in the case of the textile importers (6.8, 5.3, 9.3). Moreover, while squeezing external textile suppliers may have been an acceptable trade policy, taking advantage of local fishermen would have run counter to anti-monopoly legislation and the preamble of the *Book of the Eparch,* which stresses that the parties to commercial transactions should not brazenly exploit one another, that the financially stronger should not do injustice to the weaker, that no person should oppress his fellow man, and that all actions should be governed by the rule of law. It follows that actions on the part of fish merchants that were damaging to fishermen would certainly have prompted official intervention. To be sure, protection of consumers' interests was a very high priority of the eparch. Nonetheless, it is unlikely that he would decline to protect the interests of toiling suppliers of a basic staple in the face of unfair competitive practices.

Provision 17.3 leaves no doubt that the state did not intervene in the wholesale phase of fish trade and that fish prices at the waterfront were determined by market forces. Yet, the fact remains that wholesalers were a rather small group, were organized into a guild, and presumably had the tacit support of the retailers, while the fishermen were many and unorganized. *Prima facie,* this market structure suggests that wholesalers could, potentially, negotiate from a position of strength and exercise monopsonistic buying power by acting in concert and driving all-or-nothing deals. Their position may have been further strengthened because the perishability of the fish diminished the fishermen's maneuverability and bargaining power. Nevertheless, the potency of institutional arrangements, the instability of collusive schemes, and the threat of new entry suggest that attempts by wholesalers to influence purchasing prices were probably intermittent and short-lived at best, as underlying market fundamentals tended to foster competitive behavior among wholesalers.

Fishermen and wholesalers had antipodal interests: the former had every incentive to aim for the highest possible prices, the latter at the lowest. Wholesalers would counteract the fishermen's demands, since their profitability, given their fixed and narrow markup, depended on sales volume. Ultimately, volume was a function of the quantity marketed and the price prevailing at the retail resale market, a variable that, in turn, depended on the strength and elasticity of consumer demand. Disaggregated demand for fish was elastic, even for common fish varieties despite their low prices, because such purchases accounted for a significant proportion of family incomes and many very close

---

sors. Therefore, the price offered by processors, Pc, in this example, establishes a floor below which the price of fresh fish in the day market cannot fall.

[81] Mickwitz, *Kartellfunktionen,* 216, 223.

substitutes were available. This meant that lower prices resulted in greater quantities sold and greater wholesaler profit.

An initial price might be announced at the waterfront by either party to the exchange, but most likely it was set by the group that could more readily predict price, either because they were better informed or ostensibly wielded greater bargaining power—wholesalers. In quoting prices, wholesalers might have acted in concert, an action open to them because their relatively small number enabled them to behave as oligopsonists. Fishermen might accept the posted price, particularly if their marketing skills were inadequate, or if they were weary of bargaining or had developed good and long-standing relations with individual wholesalers. Varying cost structures and different perceptions about operative price levels would have made cooperation among fishermen difficult. However, they might counter-offer, possibly through an entrenched fisherman or a tacitly acknowledged price leader, and through bargaining ultimately arrive at a price accepted by all. Or, fishermen might feel that auctioning their fish in designated locations would yield better results by inviting the wholesalers to bid openly—which might or might not be a truly competitive process, if the wholesalers acted in collusion.

Legally, however, price declines had to be the outcome of the free play of market forces, the interplay of demand and supply. Concerted action by the wholesalers to depress prices could, therefore, be construed by the authorities as a conspiracy to monopolize the market in violation of anti-monopoly legislation. Nevertheless, an oligopsony enjoying stable membership and experience with price changes over a long period can result in such predictable patterns of response that it leads effectively to an unspoken understanding that all rivals observe and accept. Such a pattern could be one in which all wholesalers tacitly recognize a price leader who assumes the responsibility to set a lower price than would otherwise obtain and whose price changes are promptly matched by the others. In this instance, the oligopsony implicitly becomes a quasi-unified group of wholesalers appearing to take advantage of the many small fishermen who supply them competitively. Yet, as long as no collusive agreement is made, such practice is not unlawful. Parallel business behavior based on recognized interdependence of rival price policies that lead to price uniformity cannot be construed as actual or tacit agreement.[82] Furthermore, sometimes the authorities might have found it difficult to ascertain to what extent a price decline was due to excess supply and in what measure to monopsonistic buying pressure.

To the extent that a small number of entrenched fishermen controlling a substantial portion of the daily catch engaged in a contest with the wholesalers, a bilateral oligopoly would emerge. As the contesting groups can exercise control over the price and thereby render the pricing mechanism inoperative, price becomes indeterminate within a wide range, and bargaining power and negotiating skills come to be determining factors. The price, therefore, can fall in either extreme, or uncertainly between the two extremes. If neither group dominates, there is a good chance that prices will gravitate toward compet-

[82] M. Singer, *Antitrust Economics: Legal Cases and Economic Models* (Englewood Cliffs, N.J., 1968), 111–13; J. S. Bain, *Industrial Organization* (New York, 1968), 309–10, 312.

itive levels. It is noteworthy that the emergence of a bilateral oligopoly may not necessarily be the product of collusive behavior; as long as there was rivalry or imperfect collusion on either side of the wholesale fish market, the behavior was not culpable and the outcome cannot be viewed suspiciously.[83]

More often than not, however, effective exercise of monopsony (monopoly) power in concentrated market structures requires collusive action. In this setting, the wholesaler guild members must develop enforceable schemes to restrict purchases, have the ability to set prices and discipline fractious members, and buy the acquiescence of the overseeing chiefs—conditions difficult to put in place. What is more, collusive arrangements typically tend to be imperfect and fragile. Wholesalers may not be able to concur on the price to be quoted or, eager to increase their own market share, may not adhere to the set buying price, bidding it up in order to secure additional supplies at the expense of their competitors. Clearly, such action undermines the cohesiveness of the group, as it forces competitors to follow suit, matching bids and raising prices. Also, an aggressive pricing policy, forcing weaker fishermen out of the market or to reduce the size of their catch, could have adverse effects on the wholesalers' prospective profitability. A price squeeze on fishermen would be in violation of anti-monopoly legislation and bound to attract the attention of authorities. Furthermore, the very short trading period at the waterfront and the need for spot decisions narrowed considerably the window of opportunity and imposed a severe limit on the wholesalers' ability to posture and reach consensus, rendering concerted action less likely. Finally, since there were no legal barriers to entry and since economic barriers were not unsurmountably high, wholesalers were under the constant threat of new entrants—a concern that tended to dilute the effectiveness of their potential monopsony power. Under such circumstances, the force of monopsonistic buying power is attenuated and prices tend to move toward competitive levels.

A further potent deterrent of collusive business behavior, by wholesalers, retailers, and fishermen alike, was anti-monopoly legislation. Monopolization of a commodity was strictly prohibited. Individual actions as well as express or tacit agreements among groups aiming to drive prices down through predatory tactics or maintain prices at levels above those dictated by market forces were illegal and explicitly forbidden in fish transactions. Violators were subject to steep fines and so were members of the eparch's staff if they failed to enforce the law (*Book of the Eparch,* 18.5; *Basilics,* 19.18.1; *Synopsis Basilicorum,* 24.1). Detection of conspiratory actions would have prompted the authorities to intervene either *ipso jure* or at the request of the aggrieved party. It seems, therefore, that it would have been difficult to put into practice, let alone enforce, unfair methods of competition under the watchful eye of the state appointed chiefs and their informers.

Finally, there is a lingering perception among contemporary scholars that guilds effectively limited competition among their members.[84] However, in the fish trade the fact that the wholesalers had a statutory buying prerogative as a *group* did not confer *ipso*

[83] J. S. Bain, *Pricing, Distribution, and Employment* (New York, 1953), 394–96, 432–36.

[84] Mickwitz, *Kartellfunktionen,* 216, 223, 228, 229, 234; Lopez, "Silk Industry," 18; Oikonomides, "Entrepreneurs," 156.

facto exercisable monopsonistic pricing power on *individual* guild members, since the wholesalers did not act on command, in unison, or in compliance with internal regulations entailing disciplinary action for non-compliance. The law did not impose price discipline on guild members to thwart intra-guild competition and protect an individual member's share in the total business or to ensure equality of economic results. Rather, the emphasis was on fostering equality of opportunity—equal access to the daily catch. In reality, wholesalers were competing among themselves for market share, which meant acquiring large quantities of fish, as this was the only way to enhance profitability in the face of fixed and small profit margins.

In sum, the unified and closely supervised market[85] fostered a give-and-take environment that helped forge divergent quotations into uniform prices for the various families of fish and for fish of similar grades. A confluence of factors was conducive to an unencumbered interplay of market forces, and monopsonistic or monopolistic pricing conduct, to the extent that it was practiced and went unnoticed, probably was the exception and not the rule. Institutional arrangements, the unworkability of collusive arrangements, unimpeded entry, short trading periods, and self-interest attenuated the exercisable monopsony or monopoly power of the parties to the exchange, fostered a competitive rather than collusive attitude in inter-buyer and inter-seller relations, and allowed the free play of market forces to steer wholesale fish prices toward competitive levels. In a highly localized market, price differences become known almost instantaneously, prompting swift adjustments that result in price uniformity. On the other hand, while the preserved fish market set a rock-bottom price for a significant part of the daily catch by providing an outlet for unsold fish, the fishermen's most effective way to stem falling prices, when market conditions or unfair competitive action compelled them to sell at unprofitable price levels, was to reduce the size of the catch on subsequent market days.

Retail Price Determination

Retail prices, reflecting patterns of consumer demand,[86] influenced wholesale prices;[87] but actual daily spot prices at the waterfront were also affected by the quantities supplied. Given that wholesalers were few and encountered a large number of competitively buying retailers, potentially, at least, they were in a position to exercise monopolistic pricing power over the latter. By acting in concert, they could raise the base price on which their profit margins were calculated. Practically, however, this was not possible, as the chiefs were directed to ensure that the retailers' markup did not exceed the legally prescribed maximum, and to do this they had to compare wholesale purchase prices with

[85]See above, p. 23.

[86]Consumer demand for fish was a function of fish prices, buyer income and its distribution, preferences, prices of other commodities, particularly of close substitutes, and religious custom. Consumption of blooded fish was forbidden to the religious during Lent and on Lenten days (some 150 days of the calendar year in all), when the laity substituted bloodless fish (shellfish): Nesbitt, "Mechanisms," 58–59. Koukoules argues that the Byzantines' "love" for fish was so great that they did not abstain from fish consumption even during fast days despite the Church's prohibition: Βυζαντινῶν Βίος, 79. Low income families may have had no alternative for the relatively inexpensive staple.

[87]See above, pp. 29–30, 30–31, 34–35.

asking retail prices. Transparency in the wholesalers' transactions was no less a matter of concern. Such determinations, however, presupposed full knowledge of prevailing waterfront prices and hence the physical presence of the chiefs at the closing of wholesale deals,[88] a fact that clearly precluded falsification of prices by the wholesalers.

Attempts by individual wholesalers to reduce prices and accept lower profit margins to expand their sales were bound to be frustrated as well. Given their small number and the high degree of market localization, the rest of the group would immediately match the new price, eliminating inter-seller price differences. Wholesalers had no incentive to take such action, since they were aware in advance that their competitors would respond without delay to their price moves. Similarly, if the retailers' demand turned out to be less than what the wholesalers anticipated and the latter were compelled to reduce prices, recognized price interdependence among rivals would prompt adjustments that would wipe out any price differential and establish price uniformity.

Market localization, the small number of wholesalers, recognized price interdependence, and the institutional structure left little margin for price differences in the marketplace, and this effectively limited the search for competitive prices on the part of the retailers. It is therefore likely, at least until they had cause to believe otherwise, that retailers usually accepted the wholesalers' uniform quotations as representing truly competitive waterfront prices plus their fixed markup, particularly when wholesalers had a reputation for fair dealing and long-standing relationships had been established. Correspondingly, retail prices were also uniform for each species or grade of fish, reflecting waterfront prices plus the retailers' profit margin. Whether posted retail prices were always actually attained depended on the strength of the day-market demand, which might at times force retailers to reduce prices and accept lower profit margins, the more so since at the end of the day unsold fish would have to be disposed of to processors at much lower prices. The risk of unprofitable sales would be minimized in subsequent market days by adjusting purchases in light of the most recent experience.

White Fish: Markup versus Price Setting

The eparch's highly unusual daily intervention to determine the terms of the retail sale of white fish only (17.4) raises several intriguing issues: why was the eparch's intervention limited only to white fish, when for all other fish a uniform markup was stipulated statutorily? Did he fix price(s) or profit margin(s)? If the latter, why did the law not set the same (8.33%) profit margin for all species? Did the eparch fix a uniform markup for all white fish species, or did he set individual rates?

Dagron maintains that, because of the importance of the white fish in the diet of the capital's residents, the authorities sought to fix their price to mitigate seasonal variations in supply,[89] a view held by others as well.[90] Against this view, one should note first that,

[88] See above, pp. 21–24.

[89] Dagron, "Poissons," 70 and n. 65, 71. On the misunderstanding of what species are referred to as "white fish," see above, p. 30 and notes 68, 69, 71.

[90] Stöckle, *Byzantinische Zünfte,* 80–81, 102; Nicole, *Livre du Préfet,* 68; Freshfield, *Byzantine Guilds,* 41; Zoras, *Corporazioni Bizantine,* 71, 197; Harvey, *Economic Expansion,* 170–71; G. I. Bratianu, "La question de l'approvisionnment de Constantinople à l'époque byzantine et ottomane," *Byzantion* 5 (1929–30): 91–92; Koder, "Επαγγέλματα," 370.

in conformity with official policy applied to staple articles, the eparch was bound to fix profit margins on white fish retail sales and not their price.[91] If the intention was to fix prices, the eparch would have intervened and set wholesale prices, which were the bedrock for establishing retail prices; yet, he was not involved in this crucial stage of price formation. Second, to ensure a degree of fairness, prices must be set in consideration of the position and shape of shifting demand curves for different species, as well as differing cost structures for individual fish merchants—information central authorities would have difficulty in obtaining. Third, proximate retail prices were already reflected in the prevailing waterfront wholesale prices, and this obviated the need for outright price-fixing; establishing markups was far more convenient. Fourth, establishing administratively the price of a perishable commodity in limited and volatile supply entailed the risk of pricing the white fish out of the market and causing artificial shortages and waste, or of cutting unnecessarily and unfairly into retailers' earnings. On the other hand, fixing maximum profit margins effectively allowed market forces to determine the selling price, while it introduced a degree of flexibility into the system that met the authorities' main objectives: to ensure fair prices, avoid waste, and prevent profiteering. While a ceiling was set on the selling price when the prevailing market price tended to exceed waterfront prices plus the retailers' stipulated markup, a weaker market demand would force retailers to accept lower markups, break even, or even suffer a loss on that market day in order to dispose of their perishable wares. The profit reduction suffered in such instances was probably marginal and infrequent, as experience and the daily nature of the trade allowed for price adjustments on subsequent days. Fifth, though intrusive, profit capping is much less disruptive of the functioning of the market mechanism than outright price-fixing. Finally, fixed profit margins would not have translated into equal economic results for members of the fish merchants' guild, as individual net profits varied depending on the volume of sales, running costs, and overall efficiency of operations. Rather, the practice fostered a competitive spirit, as it provided an incentive to capture a larger share of the market to enhance profitability, because an increase in sales not only broadened the basis on which markups were calculated but also reduced the unit cost of sales by spreading overhead costs over more units.

The fixing of *ad hoc* profit margins by the eparch in the case of the white fish, in contrast to the uniform markups fixed by law for all other species, was probably prompted by the high price differential between white fish and other fish categories. White fish's superior quality, limited and volatile supply, and high price elasticity of demand[92] resulted in wide price fluctuations, a circumstance that called for varying mark-

[91]The law fixed profit margins on bread (18.1), fish (17.1), foodstuffs such as preserved meat, salted fish, legumes, olive oil, cheese, etc., and on earthenware, glassware, and hardware (13.1).

[92]Although the demand for fish as a generic commodity can be fairly inelastic, the demand for a particular species can be very elastic, implying that a given fall in price causes a relatively larger increase in the amount bought, and vice versa. This is because the more narrowly and specifically fish is defined the more substitute varieties it has, and the more elastic is the demand for each variety. White fish species had a high price elasticity of demand because at high prices demand is generally elastic; most superior quality, high priced white fish species were very close substitutes; and these fish represented a relatively high percentage in the buyer's budget. And the more close substitutes a species has and the greater its importance in the buyer's budget the more elastic is the demand for it. Hence, even small changes in the available quantity could cause substantial price volatility.

ups and explains the frequency of reporting. Applying the going markup (8.33%) would have yielded much higher profit margins for white fish sales, which would have been unfair. The guiding principle in fixing markups for white fish species was to set, each time, a figure that would make profit margins commensurate with that earned on common fish varieties. Also, the fact that the law was preoccupied with the size of the white fish catch indicates that few species were involved, compared to the host of ordinary fish varieties, whose sheer numbers made setting variable markups impractical.

The relative abundance throughout the year of tunnies, mackerel, and other ordinary fish,[93] measures ensuring that the entire catch be marketed, and competition from close substitutes and preserved fish, tended to check appreciable upward price movements for these species at times of shortage,[94] to reduce the amplitude of seasonal price fluctuations, and to assure the lowest possible prices. Any attempt, as suggested above, to fix lower prices in low-yield seasons would have backfired and resulted in even lower catches and attendant tendency for prices to rise further. On the other hand, other factors would have tended to stem significant price declines and contributed to price stability. An appreciable fall in price would enable some families to buy more, while lower income groups who could not previously afford fresh fish would enter the market, thereby raising the demand for and the prices of these species. At the same time, fishermen, at least the more entrenched, might try to reduce their catch to prop up prices. These processes would have been reinforced, since the demand for preserved fish absorbed part of the migratory fish varieties, setting minimum prices and narrowing significantly the amplitude of seasonal price oscillations. Understandably, the authorities' focus was on establishing profit margins for white fish (=white flesh, high quality), which was subject to wider price fluctuations all year round. This explains why the chiefs were directed to report to the eparch daily, not seasonally, and only on the size of the white fish catch.

Concluding Observations

Commercial fishing was a critical segment of the fish industry, and measures were taken to ensure full utilization, sustainable development, and efficient management of important fishing grounds, such as those used for fixed-net fishing. The industry itself

[93]The lack of concern for the size of the common fish catch and the statutory establishment of the retailers' markup seem to imply that fish were caught in fairly large quantities, even in otherwise lean times, and that their prices therefore tended to be relatively low.

[94]Inferior quality fish (fresh or salted) was a chief staple for very low income families in the capital. When prices were high, they spent a large part of their budget on this article and were forced to curtail their consumption of other more expensive foodstuffs. Since fish was the cheapest food, they would buy more of it, not less, even though now its price was higher. This paradox ("Giffen effect") results in an unconventional upward sloping demand curve, and fish in this instance is an "inferior good." The implication is that in such circumstances a strong market demand involving too many households will reinforce the upward price spiral. However, such occurrences have been rare, e.g., bread in England, potatoes in Ireland during the 19th century, and rice in less developed Asian countries in recent times. The reason is that, even if some people view fish as an inferior good, others may not, and when less is purchased, or even when buyers leave the market altogether, the upward pressure on price is relieved, and so the market demand curve (the horizontal summation of all individual demand curves) will be normal (downward sloping)—at a higher price less fish is bought. On the notion of the Giffen effect, see Stonier and Hague, *Textbook of Economic Theory,* 63–65, 68–70; Watson, *Price Theory,* 93.

was organized into several independent sectors with distinct markets and structural characteristics: a large competitive harvesting sector composed mainly of small unorganized fishermen; a quasi-oligopsonistic/oligopolistic wholesale trade sector involving a limited number of entrenched fish merchants; a competitive retail sector; and a rather concentrated surplus fish processing sector. The fact that only the fish merchants, wholesalers and retailers, were organized into a guild, and that wholesalers and processors were small and potentially influential groups, while the fishermen formed a large unorganized cluster, heightened the importance of competition and the dynamics of inter-buyer, inter-seller, and seller-buyer interaction.

The perishability of fish gave rise to a day market, where demand alone became the price determining factor, while the existence of a processing sector alleviated the pressure of excess supply for certain quantitatively important fish varieties by absorbing unsold surpluses. Realistic interpretation of the legal provision suggests that unsold fish were disposed of at prices that, though at times might result in negative profits, in the long run would not distress fishermen and would enable them to stay in business. Thus, the link between the fresh and processed fish markets had significant implications for price determination, as the sizable demand for preserved fish and the alternative it offered for diverting unsold fish effectively set a floor price in the fresh fish day market for a considerable part of the daily catch, particularly of inferior quality varieties at peak harvests.

The law leaves no doubt that prices at the waterfront for all fish species were determined by market forces. These wholesale prices formed the basis for the calculation of wholesaler and retail profit margins, which were fixed statutorily on a permanent basis. State officials interfered with the terms of retail sales only in the case of the high-quality white fish, which was in limited supply, commanded high prices, and experienced price volatility; but even then they only set comparable profit margins, not prices, in line with established policy for necessities. The maximum retail price was essentially the waterfront price plus the retailers' markup. Whether posted wholesale and retail prices were actually attained depended on the strength of the day-market demand and the extent, apparently real, of inter-seller and inter-buyer competition.

Monopsonistic pricing at the wholesale level, to the extent that it was practiced collusively and remained unnoticed was probably not sustainable. The fragility of collaborative schemes, unimpeded new entry, self-interest, short trading periods, and anti-monopoly legislation, all helped shape an antagonistic rather than cooperative attitude in inter-buyer relations, as wholesalers vied to increase their turnover and expand their market share. Such market conduct was conducive to a rather unrestrained interplay of market forces, driving prices toward competitive levels. Recognized interdependence of price policies created a strong tendency toward price uniformity among rivals. Furthermore, the wholesalers' buying prerogative did not *ipso facto* confer exercisable monopsonistic pricing power on individual guild members, or on retailers for that matter, as the wholesalers did not act on command, in unison, or under threat of disciplinary action for non-compliance. The law did not impose price discipline on the guild members to stifle intra-guild competition and protect an individual member's market share or ensure equality of economic results. Instead, the emphasis was on fostering equality of opportunity. The same arguments can be adduced to substantiate the inefficacy of the potential monopsonistic buying power of the processors as well. All in all, the players at every

market level were competing against each other, and such competitive spirit within the unified and closely supervised wholesale and retail markets fostered a give-and-take that moved divergent quotes toward uniform prices for the various families and grades of fish.

Bethesda, Md.